MARCH, 1951

Industrial FINISHING

THE RED CROSS SLOGAN FOR 1951

"MOBILIZE for MERCY"

The Red Cross slogan for 1951, "Mobilize for Mercy", is timely and appropriate. Every loyal American should support this worthy cause.

+ + + + + +

The Lilly slogan, "With the Right Finish—You'll Finish Right" is likewise timely and appropriate. NOW more than ever you need Lilly's Dependable Products, truly the "Key" to the "Right Finish".

THE Lilly FINISHES

VARNISH COMPANY

Indianapolis, Indiana • Gardner, Mass.

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Interchemical *Finishes*

UNDERCOATS, VARNISHES, LACQUERS,
ENAMELS for METAL, PLASTIC, WOOD

To give your product a good start, give it an Interchemical Finish!

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FACTORIES: ELIZABETH, CINCINNATI, CHICAGO, LOS ANGELES

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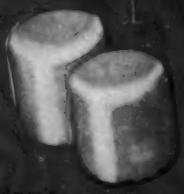
Tubular-Shaped

Burundum

GIVES A BETTER GRIND

IN HALF THE TIME



Burundum's tubular shape gives greater grinding contact area. No matter how the media falls contact area is greater than the pin-point contact characteristic of spherical media.

YOU pay[illegible] ble ball or pebb[illegible]
especially when [illegible]
Media instead of [illegible]
tubular-shaped grinding media, [illegible]
als cut ball milling [illegible]
reports yellow zinc chromate solution [illegible]
to a North Gage reading of "6" in 44 [illegible]
with Burundum. Nine pounds took 90 [illegible]
In another test Burundum ground a gray enamel to a reading of "7 plus" in 42 hours. Pebbles took 80.

Burundum is a hard, heavy silico-metallic material. Its specific gravity is similar to that of steel. Its hardness rating on the Mohs scale is 9+. (Compared to 10 for the Diamond.) Despite its hardness, Burundum is comparatively light. Its resistance to chipping, its [illegible] the non-contaminating nature of the [illegible] itself, means less frequent [illegible] Burundum grinds [illegible] ball milling [illegible]

Write for
technical data,
case history reports,
samples.
Address:
The U. S. STONEWARE CO.
Akron 9, Ohio

U. S. STONEWARE
Akron 9, Ohio

Distinctive Finishes Determine Character of Mount Airy "Montmartre" Grouping.

This handsome dresser, by the Mount Airy Furniture Company, illustrates the graceful French Provincial lines, and the distinctive character of the Montmartre group. In Walnut, glazed to a rich mellow patina, or in decorative lacquered bisque, hand decorated in burnished gold, this group maintains its character by use of the proper finishes . . . finishes specially developed and created for Mount Airy in our modern studios. Here is proof that cooperation with the manufacturer produces profits.

The Better the Finish,
the Better the Buy

For further information regarding our studio facilities and services, please write to

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GRAND RAPIDS, MICHIGAN
***Makers of the Famous* Guardsman Finish**
and Guardsman Cleaning Polish

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the 18th of each month by
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Telephone Riley 6771

Industrial FINISHING

W. H. ROHR, Editor P. C. BARDIN, Associate Editor

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MARCH, 1951
Vol. XXVII, No. 5

ABC

A monthly magazine for finishing room and paint shop foremen, production superintendents, chemists, purchasing agents and company executives of industrial plants where production cleaning and finishing are major operations in the manufacture of parts and products.

★

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27 TWENTY-SEVENTH YEAR OF PUBLICATION

Acceptance under Section 34.64, P. L. & R., authorized

Revives Old Rubber. The performance life of all rubber parts and surfaces which have hardened, cracked and become inelastic with age can be greatly prolonged by a unique rubber plasticizer, "Rub-R-Vive", now being made available to the industrial world by Schwartz Chemical Co., Inc., 326 W. 70th St., New York 23, N.Y.

When applied by cloth or brush to an old rubber surface, it actually plasticizes the rubber and is said to impart the feel, grip, resilience and performance of new rubber.

The product is described as a non-inflammable and non-volatile liquid. Company chemists state that, because it does not evaporate but is absorbed by the rubber, one application results in a lasting improvement.

* * *

Production Capacity. According to Government figures, American industry has spent some 83 billion dollars for new and improved plants and equipment since the end of the last war. This country now has a production potential greater than all the rest of the world.

* * *

Prints Cartons for User. A new machine that automatically prints complete display designs on all four sides of corrugated, fiber and wood shipping cases at the point of packing has been developed. The new machine, called the Markoprinter, is designed to make it practical for companies with varied product lines to print their own cases as they use them instead of maintaining large inventories of pre-printed cases for each different product and size, or of risking interruption of production schedules as a result of case supply shortages.

* * *

Portable Electric Hammer—one of simplified design with only one working part—is announced by Skilsaw, Inc., makers of portable electric tools. Strikes 3600 blows a minute; is 16¼-in. long and weighs 20-lbs.

* * *

Rubber-caster wheels for factory trucks, to avoid sparks and vibration, have been developed. To fulfill safety requirements, the new caster is spark-proof and generates minimum friction heat.

As a further safety factor, the new caster incorporates cased bearings which are said to eliminate the race wear of ordinary ball bearings.

* * *

Fire Losses in 1950 reached a total of $688,460,000 in the United States, according to a report by the National Board of Fire Underwriters. This total is an increase of 3.1% over that of 1949; however, it was 3.2% under the fire loss of 1948.

The total is much too high. Many fires could have been prevented by

(Continued on page 121)

OLIVE DRAB

Gloss Semi-Gloss Lusterless

ROT INHIBITING SEALERS
RUST INHIBITING PRIMERS
SYNTHETIC ENAMELS
LACQUERS & THINNERS

"Certified" To Meet All GOVERNMENT SPECIFICATIONS

... Expert Technical Service Available

V. J. DOLAN & COMPANY, Inc.

"Unquestionable Quality"

INDUSTRIAL FINISHES

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Form-A-Roc • *FIRST COAT*

FOUNDATION FOR FINE FINISH

1. Dries with lacquer speed.
2. Has double lacquer solids at spray gun.
3. Fills very well—sands easily.
4. Adheres tenaciously to steel, wood, presdwood, aluminum, galvanized metal, etc.
5. Holds out lacquer, synthetic or oleoresinous enamels exceptionally well.
6. Thins 3:1 with xylol.
7. Available in GREY, SALMON and OFF-WHITE.
8. Ground well to smooth texture.

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THE VARNISH PRODUCTS COMPANY

5206 Harvard Avenue Cleveland, Ohio

PHOSCOTE STOPS RUST AND CORROSION!

- NEW TYPE PRODUCT That Cleans and Phosphates in One Operation
- PREVENTS UNDER-FILM RUST And Corrosion
- ADDS LIFE TO FINISHED ARTICLE
- INCREASES PAINT ADHERENCE Through Fine, Evenly Dispersed Phosphate Coating
- NON-TOXIC, NON-CORROSIVE. Does Not Sludge Out in Operating Tank
- ECONOMICAL TO USE on Steel and Aluminum, Due to Low Concentration. EASY TO APPLY!

Write for Technical Bulletin

PELRON CORPORATION FORMERLY CHEMCO PRODUCTS CO., INC.

7740 W. 47th STREET LYONS, ILLINOIS

Manufacturers of Phosphating Chemicals That Conform to Gov't. Specifications.

Here's the *Practical Finish* to REPLACE PLATING

Strathmore Protective Chrome and Metal Coating . . . so essential to the long-life of any "plating replacement" method of metal finishing. Water-white, high solids, will not discolor. Extreme resistance to impact and abrasion. 200 hours of salt spray show no visible break-down of film—exceeds standard chromium specifications. Can be dipped or sprayed.

Baking Type

BAQUIK Clear Coating X2534. Baking range, from 225°F. for 1 hour to 300°F. for 15 minutes. Approved by leading auto manufacturers.

Air-Drying Type

METALBOND Clear Coating SL-300 dries quickly without baking.

STRATHMORE PRODUCTS INC.

Provides long-life protection for the CHROME FINISH Temporarily Allowed

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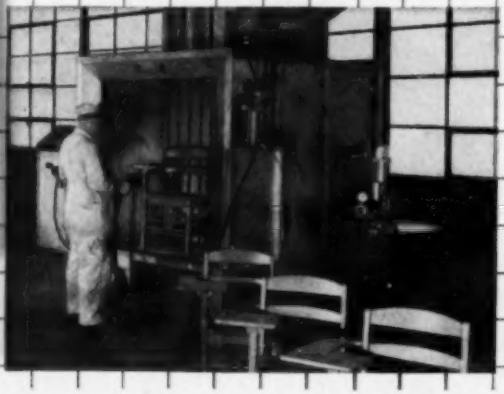
Strathmore Products, Inc.

1970 W. FAYETTE ST. Phone 4-2118 SYRACUSE 4, N.Y.

EVERYTHING FOR SPRAY PAINTING

a better

MATERIAL HANDLING PUMP by Binks



Rugged, long-stroke air motor provides pressure ratios from 1:1 to 10:1.

Special, pressure lubricated packing protects the motor ... minimizes maintenance costs.

Double acting pistons pump material on both up and down strokes... insure smoother flow of material. Top piston prevents material from working up the cylinder to the packing.

Large, unobstructed opening at floor level completely empties the drum.

Binks material handling pumps are made in three types:
Type A: (cutaway illustration) for use in open 55 gallon drums
Type B: for use in standard 2" bung hole of 55 gallon drum
Type B5: for use in five gallon container

A highly developed pump for use with fine finishes

INCREASES PRODUCTION 15 PER CENT... With this new Binks equipment you pump directly from your supply drums...saving up to 6 cents per gallon on handling time alone. Cuts "down time" to the minimum because no time is lost filling tanks or in cleaning operations.

GIVES BEAUTIFUL FINISHES... By using a Binks pressure material regulator in conjunction with this new Binks Pump, absolute and precise control of material pressure is simple. Material reaches the spray guns in a steady stream free of all pulsation...ideal for the application of even the finest finishes.

HANDLES ALL FLUIDS... Binks air-operated Pumps are available in pressure ratios from 1:1 to 10:1. They will pump all fluids...from thinner to calking materials... including fluids containing abrasive materials.

IDEAL FOR LOW COST PAINT CIRCULATING SYSTEMS... One of these new Binks Pumps will supply up to 8 production spray guns. A system of this kind guarantees uniform color and viscosity and perfect performance at every gun station, cuts rejects, improves finish quality and reduces fire hazards.

LOW MAINTENANCE AND OPERATING COSTS... A Binks Pump operates on minimum quantity of air from your regular supply. Simple rugged construction. Cleans itself by simply pumping a solvent.

Send today for new Bulletin 700 describing Binks material pumps and related equipment.

"A better product for American industry is ever the goal of Binks engineers." Burke B. Rock President

Binks **MANUFACTURING COMPANY**

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Glidden

Glidden QUALITY

Product Finishes

BACKED BY EXPERIENCE GAINED FROM TWO WORLD WARS!

Over $27,000 sa[illegible] in first year of ope[illegible]

That is the record of one Paasche Automatic Air-painting Unit. Many other Paasche units in operation are proving equally effective, in saving finishing materials and increasing production. For coating flat objects, the Paasche straight line conveyor automatic unit with the patented Oscillator is without equal. For miscellaneous shaped parts, metal stampings, the spindle type Unit is without par. There is a Paasche Unit to do the job better and at lower cost.

The Two Units illustrated here are representative of the wide range of Paasche Automatic Air-painting and Drying Units designed, made and installed to meet the diversified requirements of industry for Fast, Low-Cost, Mass Production.

Send for the latest Paasche Catalog MAI-650

1917 W. Diversey Pkwy. **Paasche Airbrush Co.** **Chicago 14, Illinois**

Branches in Principal Cities ***Distributors all over the World***

The experience of Watson-Standard Laboratories in the field of decorative and functional coatings for the Metal Lithographer has been widely recognized.

Their accomplishments include the development of such outstanding finishes as Wet Print Varnishes, Base Whites, Quick Bake Finishes, Gold Lacquers and Blacker Litho Blacks.

These finishes are available in vinyl as well as conventional types.

These are not of standardized formula but are prescription compounded to fulfill the needs of each individual application. The services of our laboratory and field technicians are available to you without obligation. Let us help you with your problem.

Write today.

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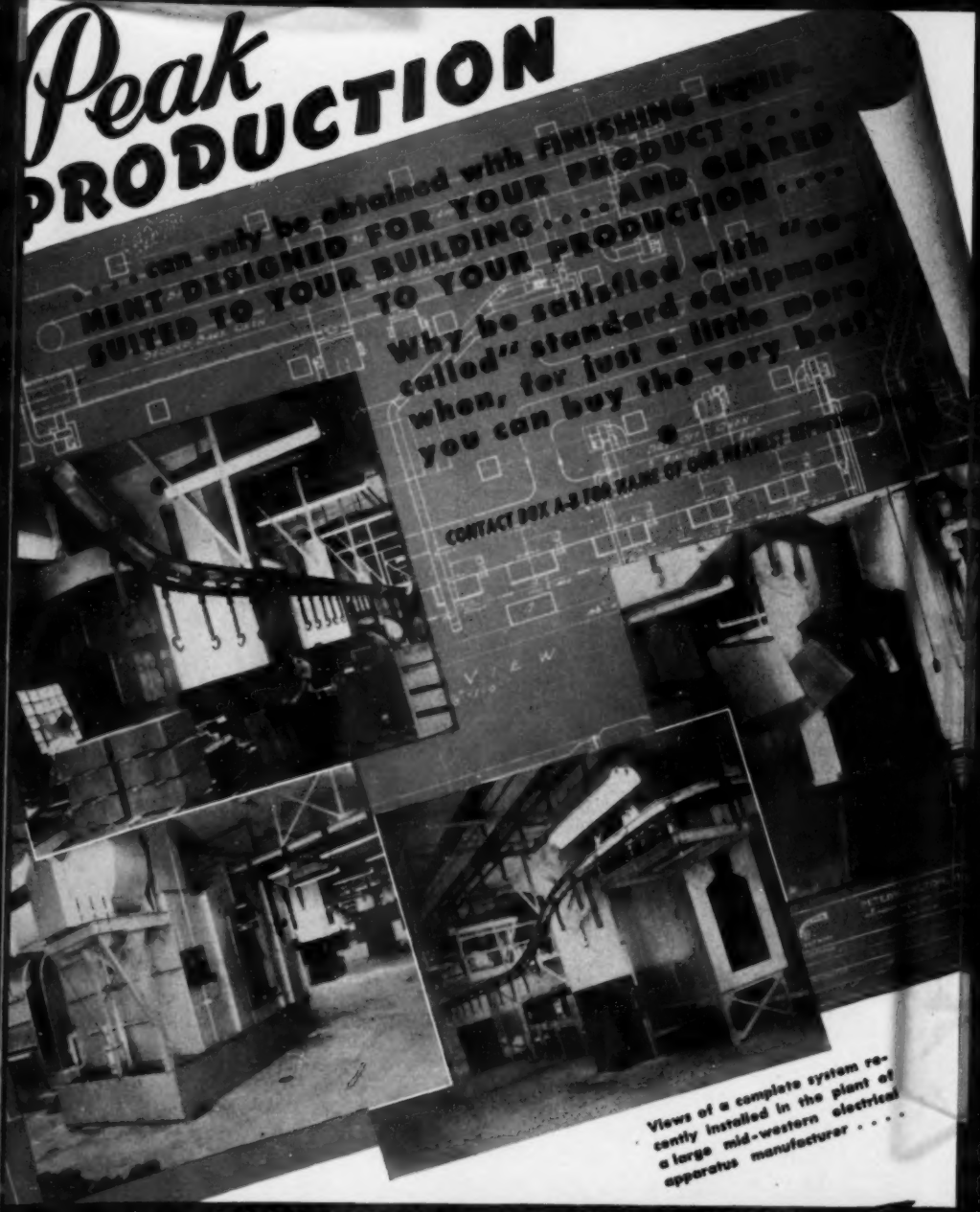
225 Galveston Ave. Pittsburgh 30, Pa.
NEW YORK OFFICE 15 Park Row New York 17, N. Y.
CHICAGO OFFICE 55 E. Washington St. Chicago 2, Ill.

Peak PRODUCTION

. . . . can only be obtained with FINISHING EQUIPMENT DESIGNED FOR YOUR PRODUCT . . . . SUITED TO YOUR BUILDING . . . . AND GEARED TO YOUR PRODUCTION . . . .

Why be satisfied with "so-called" standard equipment when, for just a little more, you can buy the very best?

CONTACT BOX A-3 FOR NAME OF OUR NEAREST REPRESENTATIVE



Views of a complete system recently installed in the plant of a large mid-western electrical apparatus manufacturer . . . .

WASHERS • • SPRAY BOOTHS • • FLO-COTE • • OVENS

PETERS-DALTON

17916 RYAN ROAD • DETROIT 12, MICHIGAN

FORD WHIRL

Longer Lasting, Better Looking

PITTSBURGH LAVAX ENAMELS

Give Fine Home Appliances Even More Sales Appeal!

THERE is a good reason why many leading manufacturers of refrigerators, washing machines, hot-water heaters, kitchen cabinets and other household appliances use famous Pittsburgh Industrial Finishes.

● **Working in close** cooperation with the engineering and technical staffs of these organizations, Pittsburgh has produced tailor-made Industrial Whites of outstanding quality and performance to meet their needs and standards.

● **These coatings** have the smoothness and opacity needed for all the various kinds of appliances. They adhere well and attain the desired hardness under specified baking schedules. They resist grease and humidity. They hold their initial gloss and color through many years of service.

● **Consequently,** these fine Pittsburgh Finishes not only add to the customer appeal of fine appliances on the salesroom floor but also keep them looking better longer in the homes of purchasers.

● **Such cooperation** with the appliance manufacturers is another example of the valuable assistance Pittsburgh has given users of industrial finishes in many fields. This understanding of finishing problems, based on practical experience, can be helpful to you. Call on us for facts and figures.

PITTSBURGH PLATE GLASS COMPANY
Industrial Paint Division, Pittsburgh, Pa.

Factories: Milwaukee, Wis.; Newark, N. J.; Springdale, Pa.; Houston, Texas; Los Angeles, Calif.; Portland, Ore. Ditzler Color Division, Detroit, Mich. The Thresher Paint & Varnish Co., Dayton, Ohio. Forbes Finishes Division, Cleveland, Ohio. M. B. Suydam Division, Pittsburgh, Pa.

PITTSBURGH *Industrial* FINISHES

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

G. L. Hehl, General Manager
General Industrial Division.

"If the label says KEMVAR it will be KEMVAR!"

A statement of policy to users of Sherwin-Williams Industrial Finishes . . .

. . for CIVILIAN production:

"To aid manufacturers in maintaining their finishing standards, Sherwin-Williams makes this statement of policy: "Restrictions in the supply of some of the quality ingredients of such well-known Sherwin-Williams industrial finishes as Kemvar, Kemclad and others may affect the *quantity* of such finishes that can be supplied.

"So long as these branded finishes can be supplied at all, however, no deviation in their *quality* will be permitted. "Users of such finishes can therefore be assured that if a label *says* KEMVAR, the material so labeled will *be* KEMVAR, as nearly unvarying in established performance characteristics, both on the production line and afterwards, as strict quality control can make it."

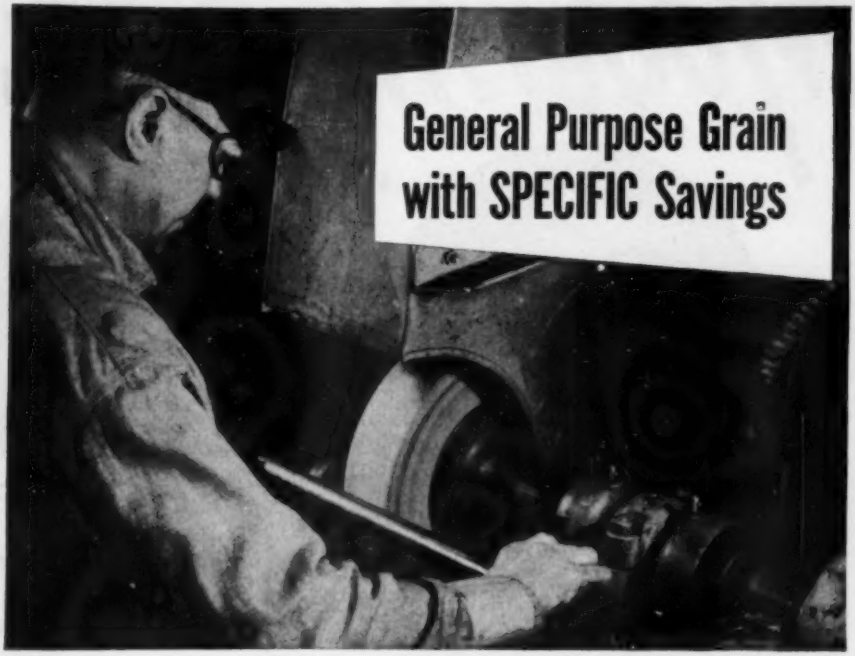
. . for DEFENSE production:

"The same integrity of product and appreciation of practical production problems is assured to users of Sherwin-Williams finishes for defense orders as for civilian requirements.

"Every effort will be made to furnish defense manufacturers with suggestions for making necessary change-overs to meet government finishing specifications accurately in spirit as well as letter, with least possible modifications of existing equipment."

Sherwin-Williams experience extending through two World Wars will be made available on any defense production problems, through facilities extending from coast to coast. Call, wire or write The Sherwin-Williams Co., 101 Prospect Ave., Cleveland 1, Ohio.

SHERWIN-WILLIAMS
INDUSTRIAL FINISHES



Aloxite TPC

For a variety of metal finishing operations where it's not practical to stock several types of grain and make time-consuming wheel changes, you'll get best results with ALOXITE TPC aluminum oxide grain by CARBORUNDUM. Medium sharp and tough, ALOXITE TPC grain provides maximum adhesion when used with cold cement. It is well suited to polishing operations in which a small amount of metal is to be removed. Accurately graded to provide solid, well-shaped grains of uniform size; free from "flats" and "slivers" (the weak grains that do no work). For increased production efficiency and economy in *your* metal finishing—use general purpose ALOXITE TPC aluminum oxide grain by CARBORUNDUM. Write for special booklet on metal polishing with grain.

Only CARBORUNDUM

TRADE MARK

makes ALL abrasive products . . . to give you the proper ONE

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Modernize

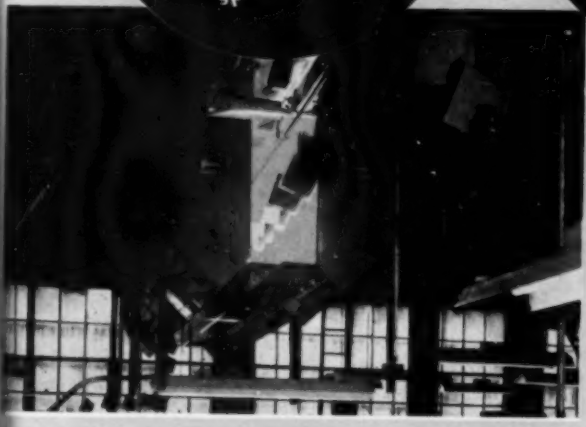
WITH THI
FOR FINIS

SAVES SPACE

Short cycle operation requires smaller oven space. Also may be suspended from ceiling to eliminate floor space entirely.

SAVES TIME

Speed of Infra-red reduces processing time from hours to minutes. Heat is instantaneous. No stand-by time necessary.



TYPICAL OF THOUSANDS OF MODERN FOSTORIA INFRA-RED INSTALLATIONS

France Mfg. Co., Cleveland, bakes the finish on transformer cases 3 times faster with Fostoria Infra-red than previously with forced air drying. Baking time is only 5 minutes, producing 8,000 cases in 8 hours. Space is saved by suspending the Fostoria oven from the ceiling.

•

Before switching to Fostoria, Friden Calculating Machine Co., San Leandro, Calif., operated 3 convection ovens 20 hours per day, 5 days a week to obtain required finishing production. Now, a 44 ft. Fostoria Infra-red oven with a connected load of 90 KW turns out more production of better quality in only 7 hours per week — a savings of 93 hours. Weekly power bill is only $12.60 — a substantial cost savings compared to their previous convection oven operating cost.

THE FOSTORIA PRESSE

MOST EFFICIENT OF ALL INDUSTRIAL OVENS BAKING FOSTORIA INFRA-RED

SAVES MANPOWER

Ideal for conveyorized production methods. Saves man hours in product handling. Turns out more pieces per day with less people.

CUTS COSTS

Faster production, lower operating costs, improved quality result in lowest "per piece" cost.

Is MORE and better finishing production at less cost your problem? The quick, sure solution is the high efficiency Fostoria Infra-red System. As proved in thousands of plants, savings in space, time, manpower and costs greatly exceed the investment required for this modernization. *A Fostoria Infra-red System out-performs any other equipment on the market today.* Fostoria exclusive engineered features guarantee the fastest, finest finish baking at lowest "per piece" production cost. Mobilize, now, for more efficient production. Check the many vital advantages of Fostoria Infra-red. We will gladly give you definite comparisons with your present facilities.

GET THE COMPLETE FACTS!

Write, today, for factual folder on the Fostoria Infra-red System. Technical data applicable to your operations will be included if you send us general facts about your problems.

★ At your request, a Fostoria representative will gladly analyze your production needs and submit definite recommendations with carefully forecasted results for your consideration.

INFRA-RED fostoria SYSTEM

STEEL CORPORATION, Fostoria, Ohio

Oldest and Largest Manufacturers of Industrial Infra-red Ovens

DEVILBISS

WHAT DEVILBISS SERVICE MEANS TO YOU

DeVilbiss spray equipment has been profitably applied to an astonishing variety of liquid-coating tasks. New applications to fit new jobs are almost limitless in scope. And with DeVilbiss Spray Guns, Exhaust Systems, Air Compressors and Hose go far-reaching DeVilbiss services and experience. May we help you? Read below. Write us today.

Air Compressors

Hose and Connections

Spray Guns

THE SPRAY THAT'S RIGHT ON THE BEAM

Plastic panels are coming through the fully automatic DeVilbiss spray finishing process you see in the photograph on left.

And the sales appeal these panels have at the retail level is due partly to the gleaming finish they get here.

This particular machine is one of 5 vertical transverse units built for spraying plastic panels on 48" centers and traveling 15 to 20 feet per minute.

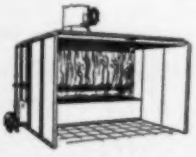
Each transverse machine is equipped with 4 automatic DeVilbiss Spray Guns traveling at 288' per minute. They spray primer on backs; primer, and two color coats on fronts.

The neat part is that all the guns are controlled by light beam and operate only when there is work at the spray station. Improved finishing technique, like this, is typical of DeVilbiss service and products — Spray Equipment, Compressors, Spray Booths and Hose. To see how their application can be profitable to you, phone the nearest DeVilbiss branch office or write us direct for data.

THE DEVILBISS COMPANY, Toledo, Ohio

Windsor, Ontario • London, England • Santa Clara, Calif.

Branch Offices in Principal Cities



Spray Booths

FOR BETTER SERVICE, BUY

DEVILBISS

FOR BETTER PAINTED METAL SURFACES

SPRUANCE

SYNTHETIC ENAMELS AND PRIMERS
(AIR DRY AND BAKING TYPES)

MACHINERY ENAMELS

DRUM PAINTS

FILING CABINETS

TYPEWRITER STANDS

HOIST and MATERIAL HANDLING EQUIPMENT

METAL SHELVING

- We have always taken pride in turning out products that are more than just satisfactory. They must excel in their field. That's why Spruance primers, paints, lacquers, varnishes and enamels are "specified" by manufacturers of quality finished wood and metal specialties.

  Among the regular users of our synthetic enamels and primers for metal surfaces are:

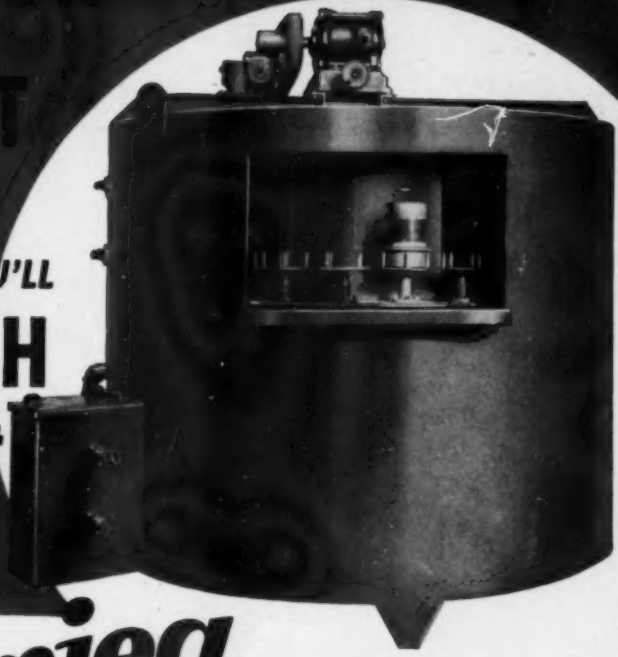
  Peerless Steel Equipment Co. Penn Metal Corp.
  Columbia Steel Equipment Co. Metalstand Co.
  Yale & Towne Mfg. Co.

- We invite you to let us prove the superiority of our products — particularly if you are engaged in the present defense effort.

THE GILBERT SPRUANCE COMPANY

PHILADELPHIA 34, PA. • WINSTON-SALEM, N. C.

•START Right AND YOU'LL •FINISH Right



Schmieg CENTRI MERGE WASHERS

FIRST Step • FIRST Choice • In FINISHING

You start right when you call upon Schmieg engineers for mechanical washers to fit your specific production requirements. And that's why you finish right, too. Because Schmieg washers are designed and engineered to give you high production cleaning, long trouble-free performance at low operating cost.

There's a Schmieg washer for any kind of job, a washer that will save floor space and can probably be loaded and unloaded by one man. Available in manual and automatically loaded types.

Convenience is emphasized in Schmieg washers, no matter what type—convenient controls, variable speed drives, doors that permit quick access to interiors for ease of maintenance.

No wonder Schmieg washers are first step and first choice in finishing!

Start right now by consulting Schmieg engineers for your washing requirements.

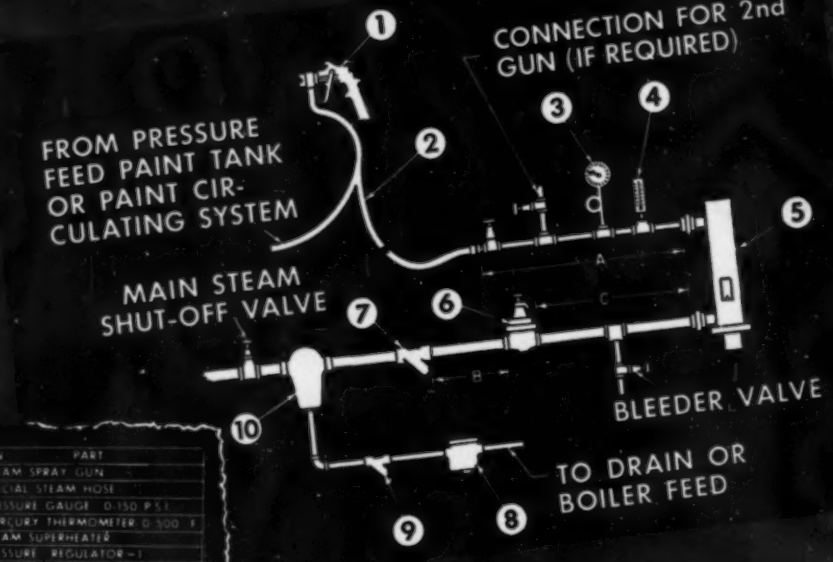
THE best AIR PURGE is CENTRI MERGE

Schmieg INDUSTRIES INC.

Engineers & Manufacturers

813 PIQUETTE AVENUE, DETROIT 2, MICHIGAN

how STEAM gives you faster lower-cost finishing!



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The Brake Shoe Steam-Spray Gun.

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Material is money. With steam you use less material, solvents and thinners than with conventional spray methods, because of the heat involved and the reduction of overspray. Resultant coats are surprisingly free from sags, popping and runs, and are equal or superior in quality to conventional finishes.

The Brake Shoe Steam-Spray Gun makes the process practical for production-line use

1. Exclusive insulation, heat radiating design and built-in finger guard assure trigger and handle temperatures which are comfortable to the bare hand.

2. One-piece, easy-to-clean air cap and fluid nozzle are designed to provide uniform distribution of material. Full range of spray width control allows adjustment to any degree required.

3. Hose support reduces downward torque on the head and contributes to the fine balance of the gun.

Brake Shoe can supply you with all the equipment necessary for steam spraying. We will be pleased to demonstrate the process in your own plant, or arrange visits to convenient installations. Mail the coupon today.

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Please send me information on steam spraying.

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Burdett "Radiant Heat" Gas Systems may be readily engineered to your present heat processing equipment with equally efficient results as if installed as an entirely new installation

Burdett Gas Systems have reduced cost of heat processing operation as much as 70% in many cases through multiplying of output and elimination of rejects

You see — Burdett Gas Systems can often be engineered to your requirements so as to become an efficient link in a chain production set-up, as in the building block installation illustrated.

This case presented the problem of an entirely new process—new requirements.

This building block processing installation, engineered around the Burdett Gas System, includes a pre-heat to surface temperature of 150° F — an automatic treatment of blocks — and a final uniform cure of the blocks, automatically controlled, at a 350° F temperature.

Request complete information. Send your specifications for preliminary recommendations — without charge.

Investigate:

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2. How easily and inexpensively this efficient heat process can be applied to your production.

Capacity: 600 blocks per hour.
Time: 25 minutes in heat zone.

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RADIANT HEAT GAS SYSTEMS

I thought that a preview of what we are likely to face would be of some interest. I had hoped in 1945 that the old conditions of shortages, substitutions and general uncertainty were over. I guess we were wrong; we are back where we started.—

S. P. Wilson

AUSTERITY FINISHES

THE STRAIN on our economy, due to our huge re-armament program, has begun to take its toll of finishing materials. First impact has come from the metal field. The present limiting orders from Washington, covering aluminum, copper, cobalt, nickel and tungsten, will force designers and finishers to change their pre-Korea psychology.

Present restrictions on copper and nickel practically eliminate their use for decorative plating and, since these metals are usually deposited as undercoats for chrome plating, this use has been likewise stopped from all but functional purposes. This restriction comes at a time when new 1951 car and appliance models came onto the market with a lavish use of these finishes.

The copper order curtails sharply the use of "gold" or copper bronzes for decoration. The cobalt order poses real problems for the porcelain enameler who needs this metal for adhesion to his steel. The tungsten restriction will show up in the disappearance of the beautiful transparent lakes of phosphotungstic acid. The aluminum edict has not as yet debarred uses for this metal, but its consumption for civilian use is rigidly controlled and limited.

From the experience of the past war, we who make and use industrial finishes should prepare for profound changes in the months to come.

Chromium Restriction Will Curtail Chrome Pigments

We may well count on a chromium restriction that will certainly curtail, it not eliminate, the use of our usual yellow, orange and green pigments. As the need for war chemicals increases, the raw materials for our organic red and maroons, the phthalocyanine blues and greens, the hansa yellows, etc., may be affected.

By DR. S. P. WILSON, Technical Director, The Varnish Products Co.

In our complex technology, a war demand for one commodity may show up in severe shortages in fields far removed. The appetite of a 40-billion dollar military budget for raw materials has not, as yet, been felt but it is not difficult to imagine.

So far, it seems to be the hope of the administration to continue a fairly high percentage of civilian production, together with the armament program. This is different from the all-out effort of the last war, when civilian production of most desired articles was abruptly cut off, and it poses new problems. If a certain tonnage of steel and brass is available for making cars or refrigerators, how much and what types of finish will we have available?

Pigments and Vehicles That Will Be Available

No one can give a definite answer to this question, as of now, but present stringencies and the experience of the past war period can give us an indication.

As for pigments, a reasonably adequate supply of white and black may be expected. It is probable that a good amount of organic reds and maroons, the yellow, red and brown earth colors, ultra-marine blue, and possibly iron blue, will be with us even under ultra extreme conditions.

As to vehicles, we must count on a great diversion of alkyds to war specification paints; of melamine raw material to the huge acrylonitrile program; of pentaerythritol and glycerine and toluol to explosives; of alcohol and styrene to synthetic rubber, and so on. The ingenuity of the paint maker has been tested before and it will be again.

Oleoresinous Enamels; Nitrocellulose Lacquers

What we may come to, at the hard core of the program, may be japans, oleoresinous enamels of limited variety of color, and certain types of nitrocellulose lacquer. This is a far cry from our present abundance of new and improved types of finishing materials of all colors and of all textures. It is complicated further by the fact that industrial finishes will have to take over much of the area previously covered by plated finishes, stainless steel and possibly porcelain.

The challenge here will be to the designer. All too often, in the past, he has been able to cover up mediocre design by a garish use of gleaming chrome and gaudy color. Let him now consider how to design his object so that form and line and dimension are suitable for the function to such a degree that even if he had to paint it black it would still have appeal. The purpose of finishing has been both to protect and to adorn; but the first function is going to be much more important from now on.

Some Substitutions That Are Now Being Used

A number of substitutions are now being used. To replace chrome, high-grade aluminum baked finishes, top-coated for gloss, are being used. To replace brass, transparent gold-colored lacquers are serving well when applied over smooth polished

Oakite's Great New Pre-paint Cleaner

FREE Write Oakite Products, Inc., 32F Thames St., New York 6, N. Y., for Folder F7993 on *"Oakite Compound No. 33."*

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metal. Metallic lacquers are used to simulate oxidized bronze finishes; but it must be remembered that these are only substitutes.

In a program of the size of our rearmament, everybody is going to get hurt to some extent, but the forethoughted user of industrial finishes will be looking ahead and planning for the best available job under the changing conditions of this very difficult period.

Felt Wheels; Polishers

THE function of the felt wheel in surface finishing is intermediate between the stone and buffing wheel. Felt is a solid substance having marked natural resilience. It is easily adaptable to any given requirement by a choice of abrasives. The latitude of its employment is further widened by its production in different degrees of density.

Felt wheels are customarily fabricated in four densities, or degrees of hardness, known to the trade as soft, medium, hard and rock hard.

Soft felt wheels are commonly used for polishing tin, aluminum, soft brass and glass—such products as die castings, instrument hands, jewelry, marble and granite.

Medium felt wheels are commonly used for general polishing purposes, especially on articles of brass, bronze, copper and cast iron; jewelry and hardware, for example.

Hard felt wheels are commonly used for polishing ornamental iron and cut stones, for imparting a high polish to various surfaces before plating, for example, such as tools and implements.

Rock hard felt wheels are commonly used for polishing sheet steel, steel forgings, lapping steel parts, plastic and leather; notably in finishing steel dies, tools and gems.—*The Felt Ass'n.*

Remove { PAINTS AND HIGH BAKED ENAMELS

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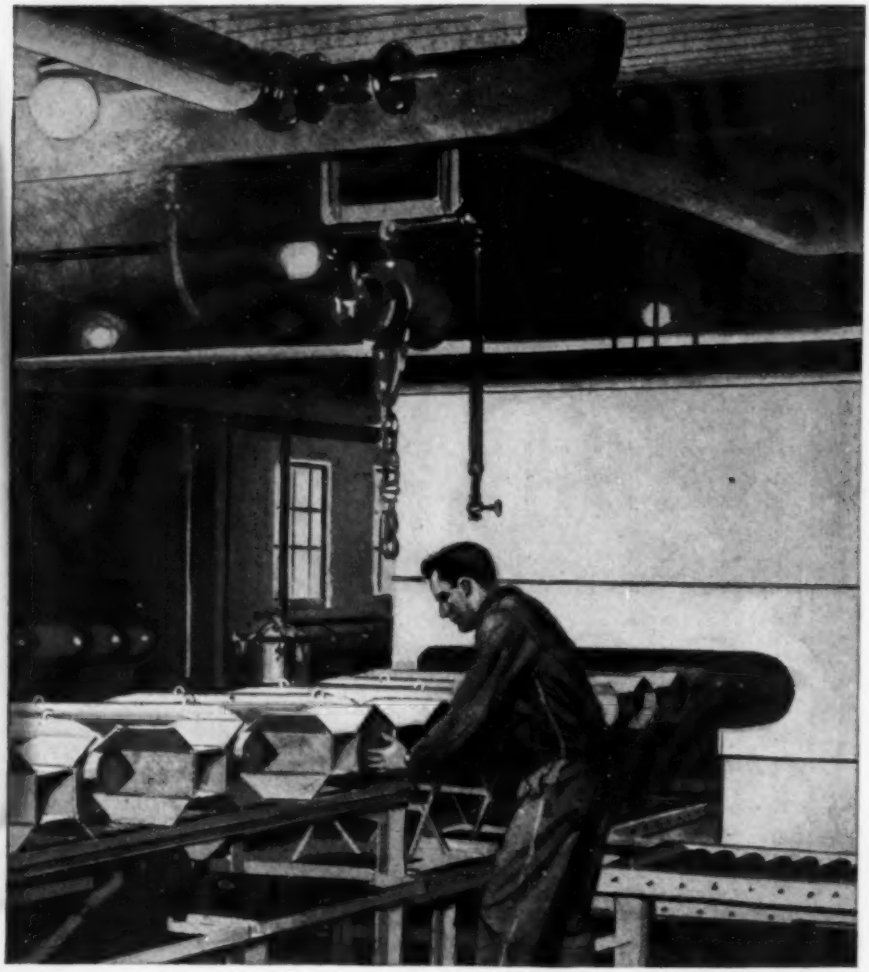
A remarkable new additive that speeds the action of your paint stripper.

KLEM Strip-Aid gives you more complete and cleaner stripping — Salvages paint rejects that have previously been too costly to handle or impossible to strip. Cuts stripping time in half.

Especially effective for removing accumulated paint from handling equipment.

Your production



Bombs on belt line being fed into booth for spraying.

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lines are defense lines!

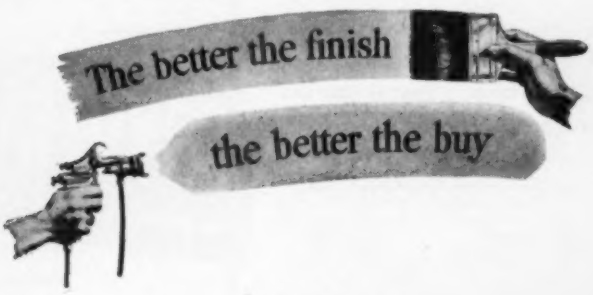
Consult an Industrial Finishes Specialist

Manufacturing for the armed services—whether it's bombs or tarpaulins, tanks or communications equipment—demands specialized knowledge in the finishing of every vital component.

In the case of bombs, for instance, the inside is likely to be protected with acid-proof finishes to prevent spontaneous combustion between high explosives and uncoated metal. Outside, the bombs, until put into service, must be protected against every conceivable kind of weather condition.

Your Industrial Finishes Specialist knows the latest government specifications, the proper finishes to do the job.

Whether you're manufacturing for the armed services or for civilian markets, it pays to consult an Industrial Finishes Specialist. He's the technically trained sales and production-minded representative of your Industrial Finishes Supplier. He can help you lower production costs, develop special finishes, meet government specifications, add durability and beauty to your consumer products. Remember—more and more of your customers *start buying with the finish in mind.*



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Remove Polish Before Refinishing

POLISHES and waxes, both spray and wipe-on types, which contain silicone oils are extremely difficult to remove completely. They even leave a residue in the cleaning rags which contaminates any surface on which these rags are used; therefore, drastic measures are necessary to avoid "fish eyes", "craters" and spots in lacquer or enamel finishes.

If the surface has been polished with anything containing silicone oil, it should be wiped with clean rags moistened by a suitable solvent. Follow with clean wet sanding, wipe again with clean rags or waste and then give the surface a final wiping with clean rags moistened with lacquer thinner or a suitable solvent. This cleaning treatment should be sufficient to remove all traces of silicone oil.

Corrosion Course at M.I.T.

Leading industrial authorities will join members of the M.I.T. faculty to present a one-week intensive course in Corrosion at the Massachusetts Institute of Technology from June 18 to 23, 1951, according to Professor Walter H. Gale, Director of the M.I.T. Summer Session.

Principal purpose of the week-long event, Dr Gale reports, will be to bring new information about corrosion control within the reach of men in industry.

Lectures will be accompanied by demonstrations, and there will be ample time for questions and informal discussion.

Further information may be obtained from Professor Gale, Room 3-107, Massachusetts Institute of Technology, Cambridge 39, Mass.

R. T. "Dick" Barnes, Jr., Pacific Coast Rep. for Tumb-L-Matic

Tumb-L-Matic, Inc., Bronx, N.Y. manufacturer of tumbling machines and processes, announces the appointment of Richard T. "Dick" Barnes as West Coast Representative. Operating out of San Francisco, with a mail address of P.O. Box 227, telephone Sutter 1-4425, Mr. Barnes will introduce Tumb-L-Matic equipment and processes to the entire West Coast.

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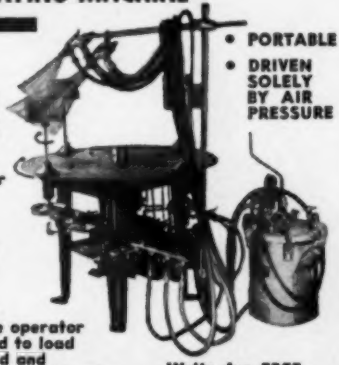
automatic-pneumatic.
SPRAYING MACHINE



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- DRIVEN SOLELY BY AIR PRESSURE

Production up to 1000 pieces per hour

Uses regular exhaust booth

Only one operator is needed to load unfinished and remove finished work.

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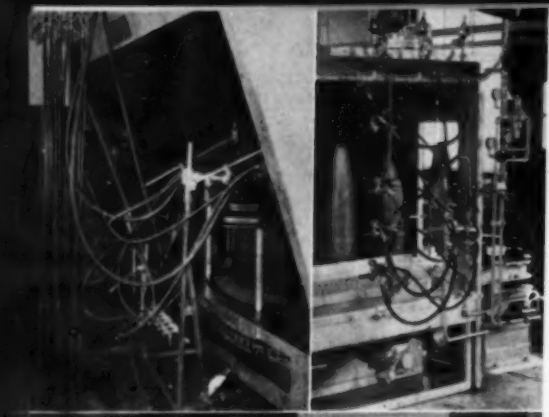
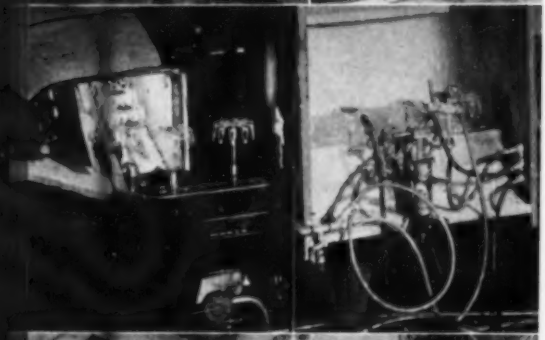
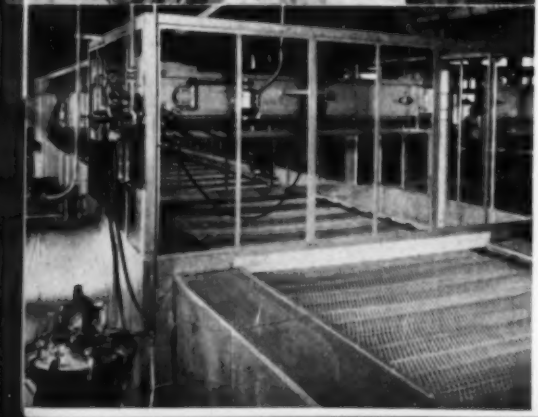






Automatic

By P. C. BARDIN
Associate Editor

(PART I)

PRACTICALLY any item that can be sprayed by hand can also be sprayed automatically. Whether it may be profitable to set up to spray a coating of uniform thickness over part or all of a product, and do it automatically, will depend upon: 1) whether a large enough number of identical or similar articles are to be spray painted, and 2) whether the high-speed production that can be obtained is really needed or wanted.

Several types of automatic spray painting machines have been designed, built and placed in successful operation for painting many different kinds of peace-time products. During World War II automatic machines were developed and set up to paint shells and numerous other articles needed by the armed forces—and more of them are being placed in service now to help along in the present Defense Program.

With the ever quickening pace set by our defense work, efficient automatic spray painting definitely fits into the present production pic-

Spray Painting....

What products can be spray painted automatically and what types of machines are available for doing various highly specialized jobs on both military and civilian products, as well as on the easy items that are so familiar to all.

ture. Nearly all implements of war require a durable coating of some kind, either for protection or for identification. Many peace time products lend themselves very well to painting on automatic machines.

Advantages Automatic Spraying Offers

Automatic spray painting has many advantages. During periods when there is a scarcity of labor, it conserves skilled workers. Properly adjusted and maintained it produces a consistently uniform finish. Once established, the distance between the spray guns and the surface to be coated remains constant. The spray pattern, atomizing and fluid pressures, as well as the position of the spray guns, are under the control of one man rather than a number of individual spray operators who often have widely different ideas on any one or all of these important phases of spray painting.

Mechanical controls that regulate air and fluid pressure, the length of time the spray guns are open, plus the skip-spray device (described later) with which most automatic spray machines are equipped—these features provide a saving in material that is usually impossible in hand spraying. Last but by no means least is the production possibilities of these machines. It is possible to predetermine the volume of production per hour. With adequate supervision, cleanliness and maintenance, this rate of production will go on indefinitely.

Manufacturers of spray equipment have developed several different types of automatic spray machines, each suited to finishing a variety of specific sizes, shapes and classes of products or parts. These machines have a certain flexibility which permits the finishing of different sizes and shapes of parts within reasonable limits. Naturally, a machine designed for coating the surfaces of flat sheets could not be used effectively for finishing cylindrical or oval objects.

The volume of production and especially the length of the runs

of work of a definite size and shape are determining factors in the use of automatic spray finishing. If the potential volume of work is not sufficiently large, or if parts of different size and shape cannot be segregated so as to avoid frequent changes and set-ups, then an automatic spray machine might not be a profitable investment.

What is an Automatic Spray Machine

Generally speaking the following components and supplies are included in an automatic spray-painting setup:

1) Automatic spray guns and adjustments for positioning and controlling them.
2) Supply of paint material.
3) Supply of compressed air.
4) Spray booth.
5) Conveyor or turntable and work holders.
6) Drying equipment.
7) Ventilation.

Automatic spray equipment usually consists of one or more spray guns attached to fixed bars or a movable carriage in such a manner that the guns may be adjusted to direct atomized material in the desired direction. The guns are mechanically operated. Most machines are equipped with a skip-spray device which prevents the guns from spraying material if no object is within spraying range. Movable gun carriages are mechanically actuated.

A supply of properly mixed paint reaches the guns, under pressure, through hose connected to pressure tanks or other containers, or from pipes of a paint circulating system.

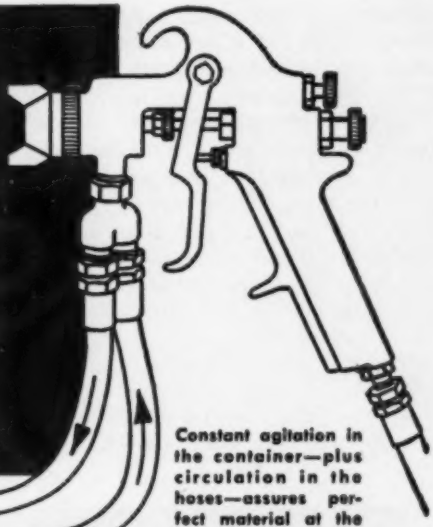
An air-operated, portable, rotating-table type of automatic spray machine. Machines like this are available in three models with from four to twelve spindles and with capacities of from 600 to 1000 pieces per hour. The entire machine may be placed in a spray booth. Photograph, courtesy of J. Holland & Sons, Inc.

Clean dry compressed air for properly atomizing the paint must be available, of course, as in most any kind of spray painting. This supply of compressed air must be continuous and under controlled uniform pressure.

Spray Booths—Upright; Down Draft; Water Wash

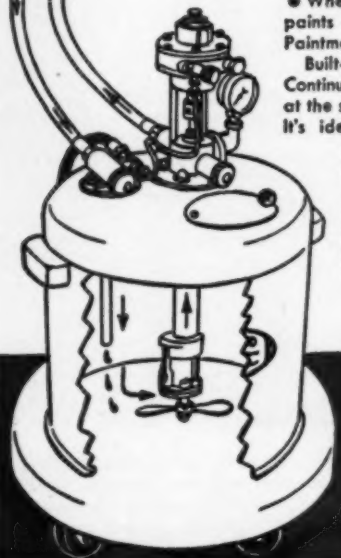
The spray booth may be an upright booth of the dry or water wash type, or a down draft booth, dry or water wash. Choice of the type of spray booth depends upon the size and shape of the objects to be coated, the coating material and the kind of automatic spray machine used for the work. For

KEEPS METALLIC PAINTS IN *Continuous Suspension* —right at the gun!



Constant agitation in the container—plus circulation in the hoses—assures perfect material at the nozzle.

. . . even when spray gun is idle!



● Whether spraying is continuous or intermittent, metallic paints *can't* settle out when you use a Graco Circulating Paintmaster.

Built-in agitator keeps paint mixed in the container. Continuous circulation assures a perfect mix in the lines and at the spray head—even after gun has lain idle for a time. It's ideal for spot-spraying operations in which quick-settling metallic-base finishes are used. And it results in better-quality finishing.

Graco Paintmaster fits right over original 5-gal. container, pumps paint without transferring to pressure pot. Saves time, eliminates spilled paint. Low pressure, less overspray. 55-gal. models also available. Write today for free literature.

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14 Graco Square, Minneapolis, Minn.

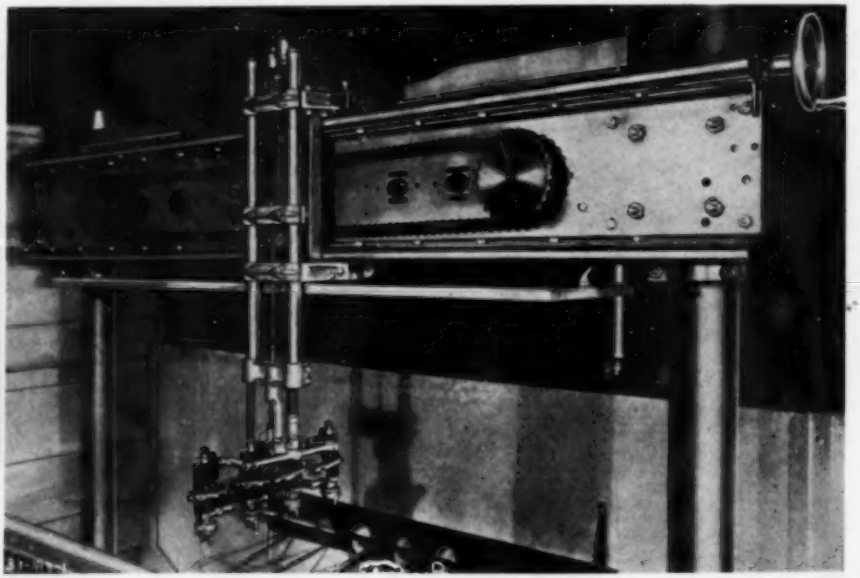
GRACO
Paintmaster
(SPRAY GUN SUPPLY PUMP)

instance, a down draft booth is the logical type for a horizontal transverse reciprocating spray machine (with gun nozzles pointing down) to coat flat sheets which are moving along by conveyor in level position.

For relatively small objects requiring a comparatively small quantity of paint per item, a dry booth can be used. For high speed finishing of larger objects, where the quantity of atomized material and consequently the amount of overspray are increased, a water wash booth will prove more satisfactory. Many spray-painting engineers declare that for most of the automatic spray painting jobs, a water wash booth is advisable.

Different Type Conveyors; Turntables Too

The conveyor may be an overhead chain supported by a monorail, a horizontal chain (chain on edge) with vertical spindles attached, a series of parallel steel cables or chains, a horizontal metal mesh belt, or a turntable. Choice of the type of conveyor depends upon the size, shape and weight of the objects to be coated, and the type of automatic spray machine used for the work. In a rotary



The crossarm of a horizontal transverse reciprocating automatic spray machine. Notice chain drive and gun carriage. The hand wheel at upper right may be turned to draw the two metal cams on top of the crossarm closer together, or to push them farther apart, to control the length of time spray guns operate. The entire crossarm, as well as the gun carriage, can be adjusted vertically to accurately control the space between the guns and the surface to be coated. Photograph, courtesy of Binks Manufacturing Co.

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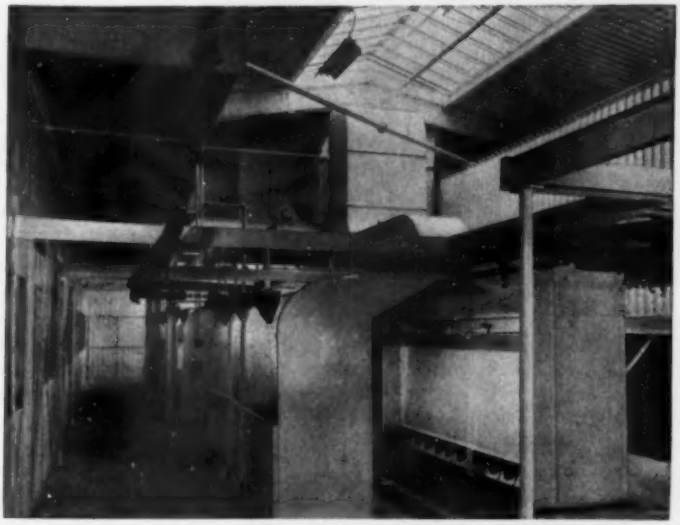
DUST FREE AIR



Planned and Engineered by R. C. Mahon Inc., Detroit

reduces spray booth rejects . . . saves "do-overs"!

AAF AIR FILTERS increase spray booth production in two ways. By pre-cleaning *make-up* air they eliminate a major cause of rejects and allow smooth, dust-free finishes. They also distribute air evenly over the face of booths, so that gun patterns are uniform and "do-overs" reduced to a minimum.

Since AAF pioneered air filtration for finishing, it has developed filters of many types and designs to meet every finishing problem. Three that are currently in demand are:

AMER-*glas*—a disposable filter of the viscous impingement type with media of continuous glass filaments formed in a thick resilient pad.

AC-2—A permanent, washable unit with specially designed "herring-bone" baffles. Also viscous impingement type.

H-V—a high velocity permanent unit with uniformly high cleaning efficiency over a wide range of velocities. Exclusive pyramid pocket media design.

AAF's thirty years experience can help you cut your spray booth costs. Write to us today.

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table type of machine, the turntable is the conveyor; it moves the work to and from the one or more spray guns used in the setup.

For medium large objects such as refrigerator cabinet sections, hot water tanks and other shaped parts to be coated on an upright machine, the parts usually move along while suspended from an overhead monorail conveyor. Smaller objects such as shell cases, electric clock bases, ballpoint pen caps, etc., are usually supported on top of work holders projecting up from a horizontal chain (chain on edge) to which short vertical spindles are attached.

Flat sheets, which are coated by a horizontal transverse reciprocating machine, are generally carried along in level position by parallel chains, steel cables or a metal mesh belt conveyor.

Air Drying Facilities; Oven Drying

The drying equipment may be made for air drying or force drying or baking, depending upon specific requirements and the particular type of coating material to be used. If it is for air drying the conveyor is simply extended a distance equal to the recommended drying period, as based upon the contemplated

An over-all shot of a vertical-spindle "chain-on-edge" automatic spray painting machine with air wash booth. Workman in foreground is placing sweeper parts on workholders spaced on 12-in. centers and supported on spindles operating on a roller chain with rider plates in the tracks. Normal conveyor speed is 4-ft. per minute. A drying time of 4½ minutes is accomplished with infra-red drying equipment. Photo, courtesy of The DeVilbiss Co.

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Production in the paint shop
is stepped up . . .
no longer limits output
of other departments!

FINISHING COSTS CUT

Savings in paint alone are
estimated at upwards of 50%
. . . in labor, at 60%!

Large and small steel parts for office furniture—desks, filing cabinets, lockers, shelving, partitions—all travel through Ransburg painting unit in Plant No. 4, Office Specialty Manufacturing Co., Ltd., Holland Landing, Ontario, Canada.

● Office Specialty stepped up production and cut finishing costs by switching from slower, hand-spray batch operation to conveyorized, Ransburg Electro-Spray.

Let us tackle your paint problems. Let our engineers estimate the savings available in your case. Possibilities can be checked quickly in our test laboratory.

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speed of the conveyor. For example, if the air drying period is five minutes, and the conveyor speed is 10-ft. per minute, then the conveyor extension would be 50-ft. long.

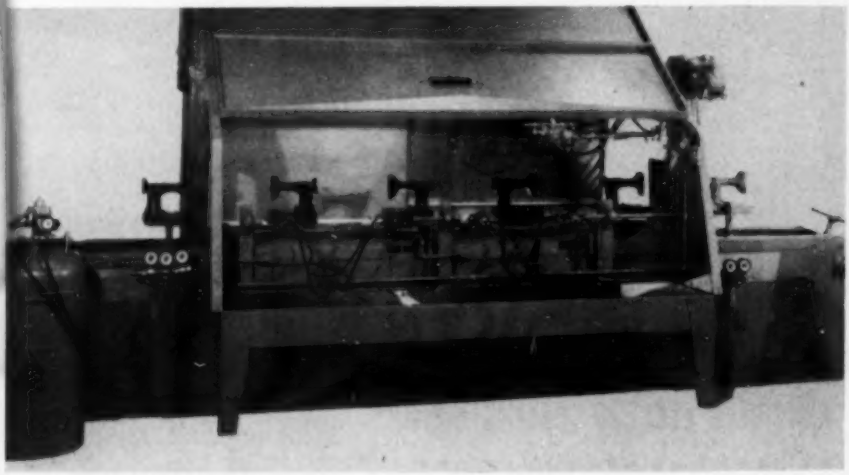
For force drying or baking the finish, the automatic spray machine may include a drying oven which may be heated by gas, steam or electric current. Choice of the particular type of oven will depend upon several factors, among them being the coating material specified, thickness of the metal used in the product, volume of production required, conveyor speed and the available space in the plant for this equipment.

Entering Air to Balance What is Exhausted

An important factor that must be taken into consideration in every spray painting setup is something you don't see. It is ventilation—the air supply or air make-up system. Provision must be made to replace the air that is removed by the exhaust system. How extensive and how elaborate the air make-up system should be will depend upon the volume of air exhausted, the type of products being painted and the quality of finish desired. Certainly the replacement air must be heated during cold weather.

The volume of air brought in must at least equal the volume being exhausted. *More desirable is a volume of incoming filtered air in excess of what is being removed, so as to provide a pressurized area in the spray room.* This will prevent dust and flying particles from being drawn into the room and settling on the freshly painted surfaces while they are still wet.

All components, elements and supplies that are included in and

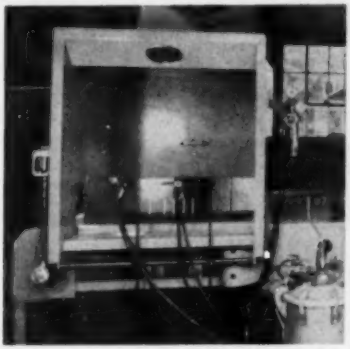


An automatic spray machine used for painting sewing machine bodies. Note gun arrangement for irregular shaped surfaces. Photograph, courtesy of Paasche Airbrush Co.

for volume finishing of parts—use the

CAPITOL HIGH SPEED ELECTRIC SPRAY-BAKE CONVEYOR MACHINE

It will accommodate pieces of from less than 1-in. diameter to over 12-in. diameter, which require a high quality finish, such as lipsticks, clocks, pens, pencils, door knobs, etc. Positioned on work holders, pieces are automatically sprayed, travel on through a drying chamber for solvent evaporation, and then into electric strip-heated bake oven from which they emerge for a cooling period before being removed.



View of booth showing automatic spray guns—lower view shows conveyor arrangement and drying and baking compartments.

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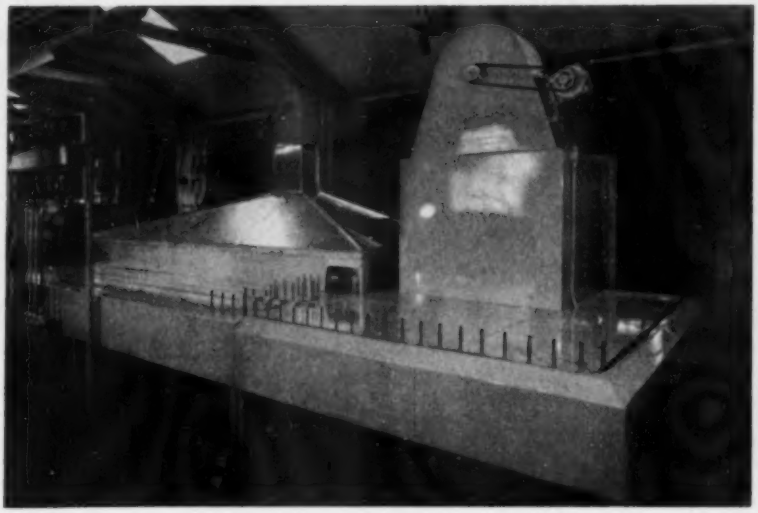
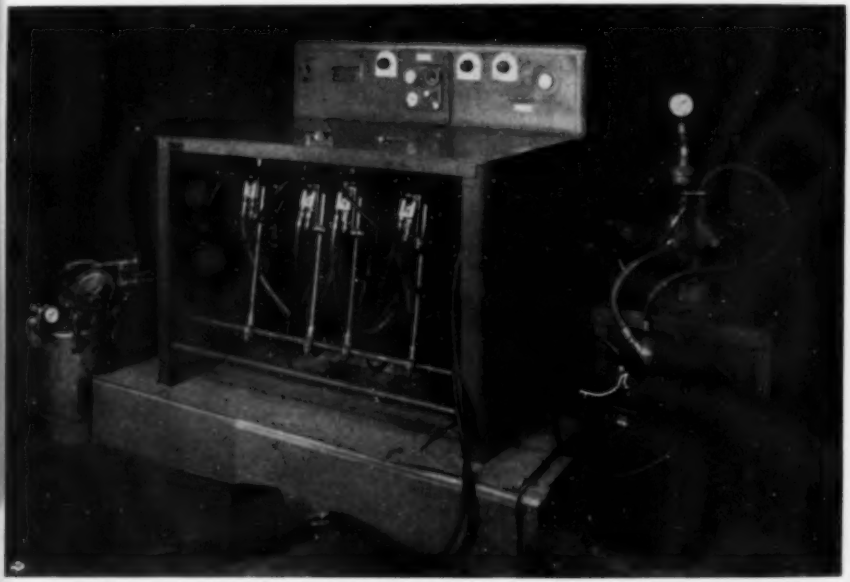


which affect an automatic spray machine must be synchronized to work together to produce a definite predetermined result. The spray booth and air supply must be adapted to the nature of the work and they must be of adequate capacity to give satisfactory performance.

Reputable manufacturers of automatic spray equipment have the experience and engineering "know how" to design, build, assemble and install equipment that will operate efficiently, economically and profitably. Most of them can show different types of automatic spray machines in successful operation.

Several Types of Automatic Spraying Machines

Classification of the types of automatic spray machines depends, to some extent, upon the type of conveyor used to move products past the spray guns, which may be fixed or movable. Starting out with a conventional overhead type of single chain conveyor from which parts hang by hooks or holders, all or part of the spray guns may be mounted in fixed position, or one or more of them may be arranged to move up and down along a vertical guide bar. The parts being



Combination spray painting and masking machine, with paint circulating system at right. Dials on the panel control the length of time needed for loading or inserting part to be painted into mask; the amount of paint to be applied or the length of time the guns are turned on; and the speed that the mask and part are rotated while being painted.

Parts to be painted are loaded two at a time into the 9-in. diameter masks. The paint cycle is automatically controlled for the speed desired by operators. This machine is useful for painting a variety of small parts, one or two colors, up to 7-in. in diameter or shape. Photograph, courtesy of Conforming Matrix Corp.

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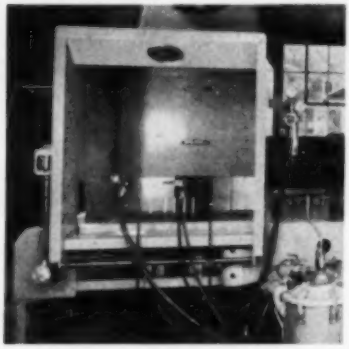
painted may or may not be made to rotate or change position as they move past the spray guns. Even flat or shaped sheets of metal may be hung edgewise from such a conveyor and spray painted by fixed or movable spray guns. Controls can be arranged to skip spray or cease spraying when empty hooks or holders appear; in other words, when no surface to be painted is in front of the guns they do not spray paint. A considerable variety of products can be spray painted with this kind of setup.



Here is the spray booth part of an automatic machine that includes traveling upright spindles (on which work holders are placed) and a drying chamber through which the spray painted work is moved by conveyor. Spray guns are positioned to suit the size and shape of the parts or products being painted. Photo, The Capitol Machine Co.

More detailed information and several additional illustrations of different types of automatic spraying machines, including electrostatic spraying, will be taken up in succeeding installments of this illustrated feature article—the next one to appear in April issue.

Acknowledgment: Information and pictures for use in this series of articles were supplied through courtesy and cooperation of the following manufacturers: Binks Mfg. Co., Capitol Machine Co., Conforming Matrix Co., DeVilbiss Co., J. Holland & Sons, Inc., and Paasche Airbrush Co.

(To be continued)

Of the millions of gallons of paint manufactured yearly, by far the largest portion is used for finishing products made in factories. A quick glance about you will reveal any number of manufactured articles that depend on some type of paint, varnish, lacquer or enamel for their protection. Preparing the surfaces of these products so that the finish will adhere firmly and present an attractive appearance is a specialized field in itself.

Tack Rags Remove Sanding Dust and Air Dust. Some manufacturers of wood furniture hesitate to use a tack rag to wipe surfaces on which the sealer coat has just been sanded—or following any later scuff sanding operations. They seem to prefer the old practice of violently blowing the surface with compressed air from a gun and then wiping it with an ordinary rag which does not remove all of the dust but only moves it around from one place to another.

Tack rags, which are not expensive, are ideal for wiping specks of dust, lint, etc., off a surface before applying a coat of finishing material. The tack rag picks up the dust and holds it. Results: No dust blown into the air to settle later on cleaned surfaces; a clean wiped surface and a clearer and better finish, as many finishers of fine metal products can testify.

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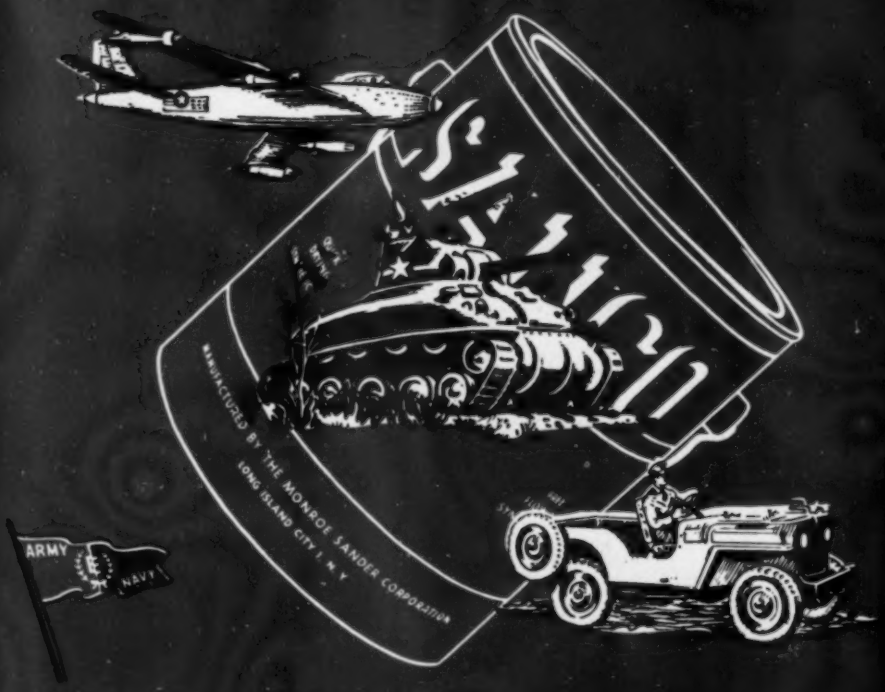

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Lowe Brothers "Finishing Specialists" have full knowledge of Government finishing specifications. This, plus their wide experience with *all types* of finishing systems and materials,* enables them to assist manufacturers in setting up efficient and economical production plans.

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BY GILBERT CLOSE

(PART III, PRIMING AND PAINTING)

THE MATERIALS and new processes used in military aircraft finishing are usually pre-determined. When a contract is let for a certain number of planes, how these airplanes will be finished is covered in a master "Finish Specification." The requirements, as set forth in this master finish specification, are based on the best materials available, the best processes known to industrial science, and application results that have been proved in both the laboratory and in field tests. Deviations from this finish specification require procurement agency approval before they can be used.

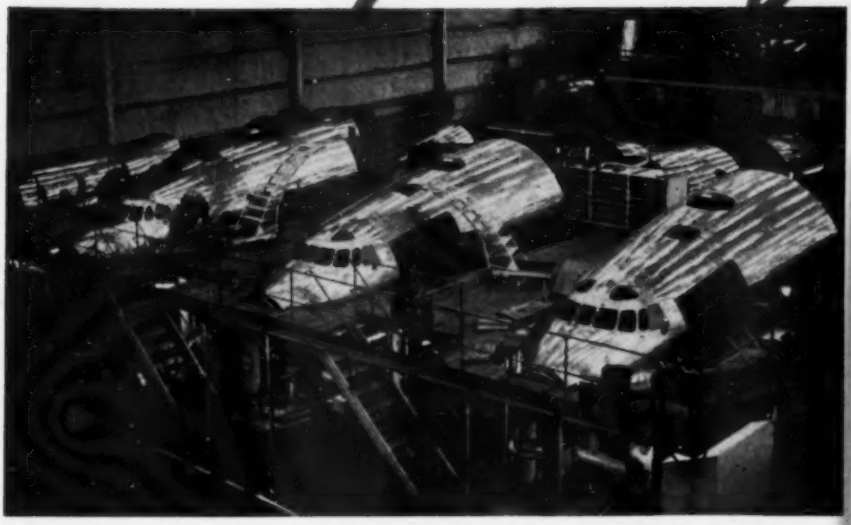
It is quite evident, once the finish specification has been set up and approved, that the main responsibility of the airplant finishing department is one of quality control. It is up to this department to use every device at its command to bring out the inherent and tested qualities of the specified finishes, and to use the specified processes in such a way as to secure the required results. Routine adherence to finish specification requirements does not guarantee that the finished airplane or any of its finished components will be accepted by procurement agency inspectors. Only when results equal the best that can be expected from the specified materials and processes is acceptance assured.

Quality Control Cleaning And Surface Treatment

The quality control work exercised in both the cleaning and surface treatment phases of military aircraft finishing were emphasized in Parts I and II of this article. Strict quality control is even more important in the preparation and application of organic finishes .... in the use of primers, varnishes, lacquers, smoothing compounds, and specialized coatings wherever they are required.

Cleaning, while highly important at the time of its accomplishment, results in only a temporary condition. Its value exists only until subsequent finishing operations have been accomplished. Surface treatment usually results in a chemical reaction that alters the surface portion of the metal and is permanent insofar as it is provided pro-

Military Aircraft



Nose sections of "Constellations" during fabrication. Photo, courtesy of Lockheed Aircraft.

tection. But in the organic coatings we have a protective barrier in which the values of both cleaning and surface treatment are vested. In many cases, the life-span of these coatings determines the life-span of the underlying metals.

Prevent Corrosion; Give Perfect Smoothness

As has been pointed out before, the major purpose of military aircraft finishing is to prevent corrosion. Any improvement in appearance of the airplane is but an attractive byproduct of the various processes and materials. While it is true that subdued exterior colors are generally used to make the airplane less conspicuous from the ground or from sea level, higher speeds, greater altitudes of operation, and the all-seeing eye of radar have all but eliminated the use of camouflage finishes for the purpose of concealment.

But higher speeds and operation at higher altitudes have added other finishing problems more serious and difficult to solve than the application of camouflage finishes. These problems have to deal with the extremes of temperatures encountered, coating smoothness as it affects aerodynamic efficiency, and coating impact resistance of an

order hitherto never encountered. Aside from providing the ultimate in protection from corrosion, the finishes employed must cope with these problems or they are utterly worthless.

Jet Speed Produces Air Friction, Heat

When a jet-propelled airplane is flying at 600-mph. near sea level, the friction between the air and its various outer surfaces will result in skin temperatures of up to 200° F. Now if the pilot pulls into a quick climb that reduces his speed while he spears upward into the cold of higher altitudes, these skin temperatures may drop to minus 70° F. (below zero) within a matter of minutes. The airplane finish must be able to stand these often repeated extreme variations in temperature, along with concurrent contraction and expansion, without cracking, peeling, losing bond, or harm in other ways to its protective characteristics.

Secondly, to keep air friction at a minimum, thus reducing both friction heat and aerodynamic drag, the exterior finish must be as smooth as it is possible to make it. Imperfections far below the range of visibility may cut top air speed many miles an hour and thus effectively offset the narrow advantage of a new high-speed model that cost a million dollars to design and develop. This smoothness must be inherent insofar as possible of the organic coating itself. While fillers and various surfacing and smoothing compounds are available, their use necessarily increases weight, and every pound of constructional weight added to a military airplane decreases its fuel or armament load by the same amount.

Resistance to Hitting Air Dirt, Rain Drops

A third special finishing problem brought about by higher speeds is the necessity for impact resistance. When an airplane is flying near supersonic speed, it collides with airborne particles of dirt and dust at a velocity far greater than that of grit as it emerges from the nozzle of a sand-blasting machine. Collision with raindrops is even worse. As an example of the seriousness of this problem, a test commonly used to determine the impact resistance of a finish to simulated high-speed flight conditions is accomplished by directing a water jet under 1100-psi. pressure at the intersection of two deep scratches on a finished test panel. Unless the finish under test can take this beating, it is quite obvious that it will not stand up under actual flight conditions. Exterior finishes that were used on military airplanes as recent as five years ago would be destroyed in a matter of minutes if applied on a jet airplane flying at 600-mph. through a rainstorm.

With these problems in mind, it becomes evident that modern military aircraft finishing is as vitally concerned with aircraft operation as it is with corrosion prevention. For those not fully acquainted with the subject, awareness of these special problems is necessary to justify what at times may appear to be extreme measures of quality control. In military aircraft finishing, controls are observed that would seem superfluous in many

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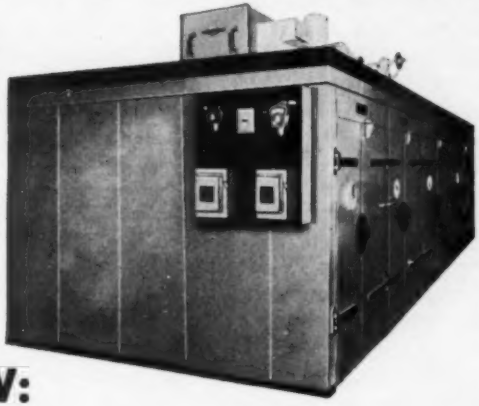

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industries. But these controls are safeguards against minor defects that would escape notice or not be considered as a defect in most types of industrial finishing work.

Control of Materials .... Receiving, Storing

Quality control actually starts with the receiving and storing of the organics used in military aircraft finishing. It is not assumed that because a paint conforms quantitatively and physically to a government Specification it is suitable for production use. There are workability and application factors in conjunction with production that are not covered in the specifications, and these factors must satisfy specific quality requirements before the material is accepted for use.

In many plants, a special paint laboratory is maintained in conjunction with paint storage facilities. This laboratory is under the direction of either the Process Engineering or Materials Control division, and its decisions are not questioned by the purchasing department of any of the production departments. Functions of this laboratory, aside from conducting pure research, are to inspect incoming materials for characteristics not covered by the procurement agency's specification.

What Checks or Tests To Make on Materials

The checks and tests employed on incoming materials depend, of course, on the type of material, but usually include one or more of the following:

1) Determination of the general package characteristics such as any grittiness, separation and skinning properties.

2) Specific gravity (using a Gardner cup to determine the weight per gallon).

3) Viscosity determinations using No. 1, 2 or 3 Zahn cup.

4) Color check, drying time check, and check on spraying characteristics employing regular production equipment.

5) Settling rate and the ease of re-mixing.

In a few cases, distinctive tests for dipping characteristics, baked-film flexibility, good dope-tautening properties, etc., are also conducted. Only when a paint made up according to an applicable specification meets and passes these additional checks is it considered acceptable for production use.

Paint Storage Order; First In, First Out

Paint storage is always on the "first in, first out" basis. In some cases this is accomplished by specific placement in the warehouse; in other cases color coding of containers may be used. Liaison between Paint Storage and Purchasing is maintained to prevent overstocking and to assure that incoming materials will be used up within a reasonable time.

Special facilities are maintained for the storage of materials that require special handling to prevent evaporation, minimize fire hazards, reduce personnel hazards, or guard against storage deterioration. Usually, only appointed personnel are permitted to make withdrawals

CHAINS of all sorts and sizes are finished with Tousey paints. Constant exposure to the elements plus mechanical wear make this a difficult problem. The finish must be one that will not flake or chip, one that can be recoated without cracking or bubbling. It must be economical to use and withstand rust while in storage. Such a finish has been developed by Tousey—its widespread use by chain manufacturers gives evidence that—***Tousey Finishes Can Take It!***

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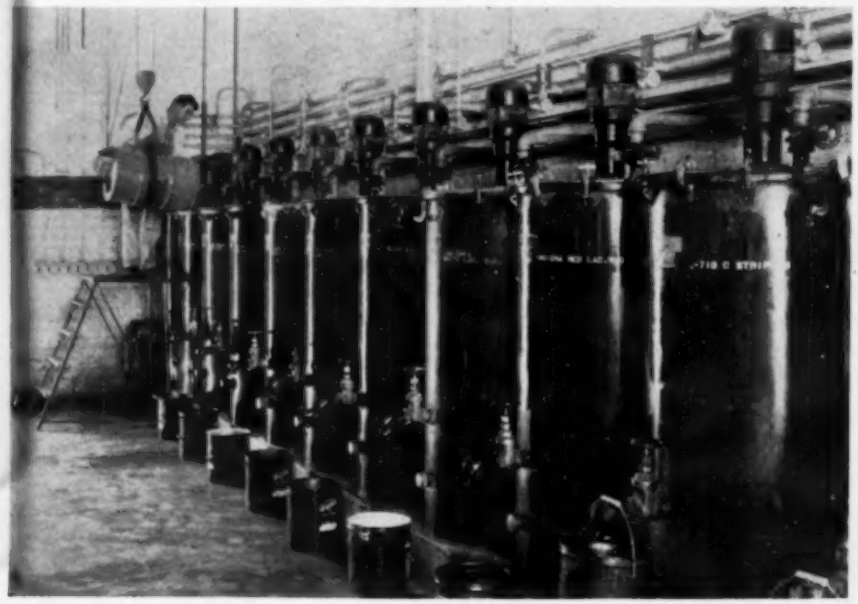
from the warehouse stock, and these withdrawals must conform to rigid quality controls in regard to containers, possible contamination, amounts, and specific administrative approval in conjunction with dangerous or critical materials.

Paint Preparation and Delivery to Operators

Paint mixing and preparation for use are strictly controlled. Automatic facilities are used whenever practical. Drums of paint are rotated on special mixing tables for several hours before the contents are added to the mixing tank. Thinners are metered into the mixing tanks from underground storage tanks. Uniform viscosity is assured by constant agitation in the mixing tank until the paint is withdrawn for use.

In many of the larger plants, deliveries of mixed paints to the various paint booths are regulated by a time schedule based on regular requirements. Deviations from regular requirements must be reported by the paint booth supervisor in time to prevent delivery of more paint than can be used up in a specified time.

Aluminum sheet stock is a major item of raw material received at any airplant. When this material



Some of the paint mixing tanks in use at the El Segundo plant of Douglas Aircraft Co. Thinner is metered in from underground storage tanks. Agitation is continuous until paint is removed for use. The barrel of paint being tilted into one of the rear tanks has just been removed from an automatic mixing table where it was revolved continuously for several hours. Photograph, courtesy of Douglas Aircraft Corp.

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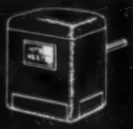
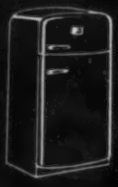


HAMMER FINISHES

CAN COATINGS



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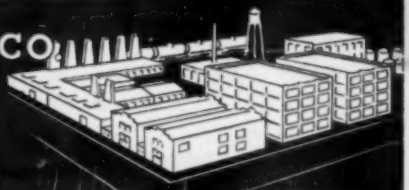

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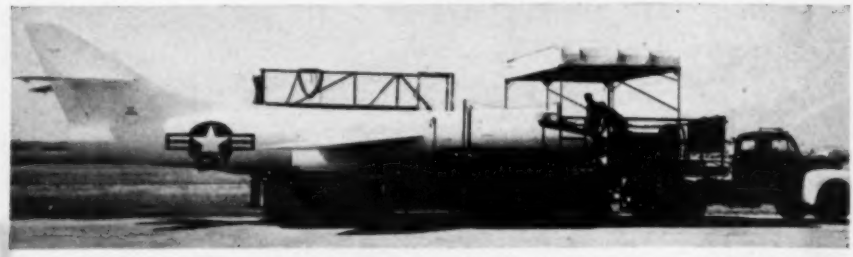

Gleaming white to offset solar radiation at high altitudes, this supersonic Douglas-built "Skyrocket" travels to desert test grounds in a specially made trailer. Aircraft finishes used only a few years ago would melt away like butter when this monster streaks through the stratosphere at speeds approaching 1000 miles an hour. Photo, Douglas Aircraft Corp.

is received in the "full hard" or heat treated condition, it is usually primed by roller coating immediately after its arrival. This is generally an automatic operation, consisting of a light phosphoric or chromic acid etch, priming, then drying. While in many cases subsequent priming prior to final painting will be necessary, this initial coating protects the metal while it remains in storage and during its passage through various stages of fabrication.

Most small parts used in military aircraft production are primed by dipping. Forced drying at 200° F. is generally employed. To assure uniformity of coating, the solids content of the primer in the dip tank is carefully controlled. While definitely subject to laboratory analysis at any time, solids control is usually accomplished by removing a specified amount of old primer at stated intervals and replacing it with new. The old primer is then used for spray gun application. The usual acceptable coating thickness for zinc chromate primer (used extensively in military aircraft finishing) is about .3-mil.

When an ultra-smooth primed finish is required for use under the final paint coating for exterior portions of the airplane, such smoothness is attained by rubbing the primed and dried surface with a fine grade of sandpaper. (No. 360 wet-or-dry is often used.) Great care must be exercised in this work while sanding over projections such as seams or rivet heads to prevent complete removal of the primed coating.

Air Conditioning and Lighting of Rooms

Application of the final top coats on the exterior of the airplane should be accomplished in a properly ventilated spray room. For best results, room temperatures should be about 77° F., and humidity about 50%. Any forced-draft ventilation used should not cause air turbulence around the airplane being painted, or "orange peel" drying may result. Water-washed exhaust systems have been found most practical, and all air entering the paint room should be efficiently filtered to remove airborne dirt and dust.

(Continued on page 62)

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Compressed air for the paint pressure pots should be as clean and dry as it is possible to make it. Regardless of the number of filters and water traps used in other parts of the compressed air system, the compressed air should be filtered and dried again just as it enters the spray booth.

Color and lighting within the spray room are important in conjunction with critical aircraft painting. White room walls with high refraction characteristics provide good light distribution, and enable the workmen to apply even, wet coatings. Efficient application will eliminate many subsequent manhours of rubbing and polishing.

Two Coats on Primer; Rubbing and Polishing

Two coats usually comprise the top finish system on military airplanes. The first coat is applied generously by cross-coating to a thickness of from .5 to .75-mil. The spraying technique should be controlled to avoid sags and runs. After 30 minutes of drying time, the second coating is applied to bring the total coating thickness to from 1 to 1.5 mils. This provides sufficient body so that subsequent rubbing and polishing will not "wear through" to the primer.

When polishing the final top coat is necessary, a No. 400 wet-or-dry abrasive paper is recommended, followed by rubbing with a suitable lacquer cutting compound. Hand rubbing produces an excellent aerodynamic surface. The rubbing and polishing should be accomplished in the direction of the air flow over the airplane surfaces. The ultimate purpose is to produce a completely uniform final finish with no roughness, imbedded dirt particles, or imperfections caused by improper drying. When it is necessary to fare out a surface or fill in an imperfection, only a minimum amount of surfacing compound should be used.

Perfect Finish Helps Efficiency of Airplane

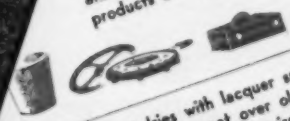
As air speeds grow higher, more precision finishing contributes to the overall efficiency of the airplane. This necessitates close cooperation and liaison between the finishing department, various phases of production, and engineering. The work of all three divisions must be coordinated toward the ultimate goal of producing a surface that is as aerodynamically efficient as possible. This can be accomplished only when engineering, production and finishing personnel are thoroughly conversant with the problems and limitations each must face.

It has been impossible within the scope of these three articles to discuss military aircraft finishing in detail. Detailed discussion of the many techniques, processes and materials employed would furnish material for several books. Rather, the author has attempted to set forth the many finishing problems peculiar to military aircraft finishing, and then describe how various processes, techniques and materials known to industry in general are employed in military aircraft finishing and how they are made to produce superior results through quality control. [THE END]

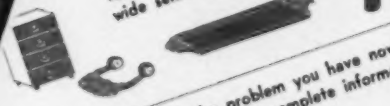
VERSATILE!

NEW...."FINISH OF A THOUSAND USES"

VARITONE provides a handy new answer to a wide variety of products and parts.



VARITONE airdries with lacquer speed; covers with a single coat over old finishes, bare metal, and wood. It requires no rubbing or polishing and comes in a wide selection of colors.



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VARI-TONE

ANDREW BROWN COMPANY

Gentlemen, We would like to learn more about Vari-tone!

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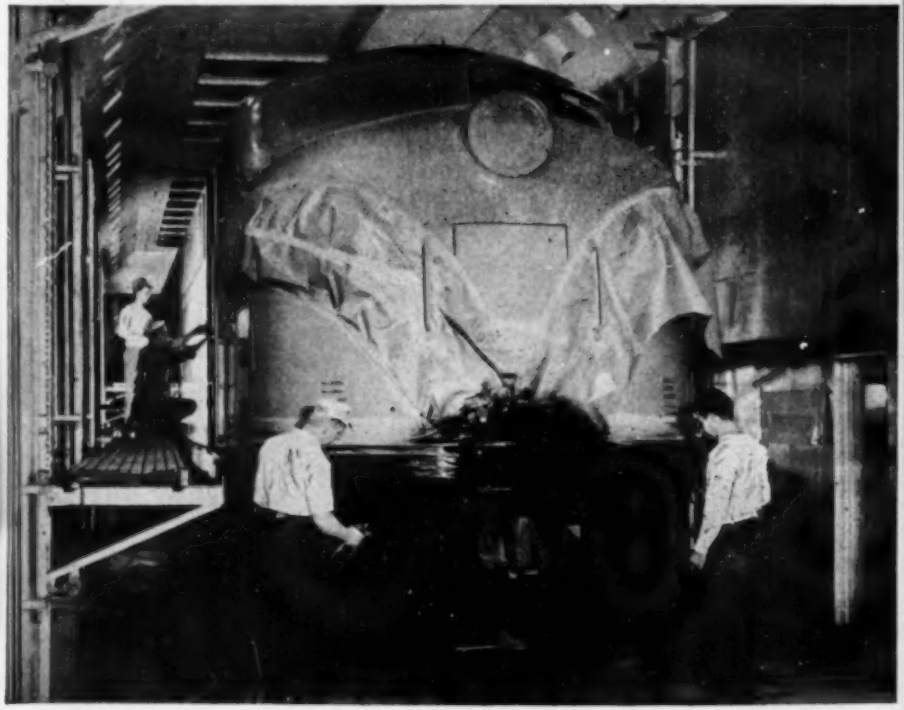
STREAMLINED FINISH TO KEEP THAT OUT-IN-FRONT LOOK

DUCO and DULUX Railroad Finishes—typical of the 12,000 Du Pont finish formulas working for industry today

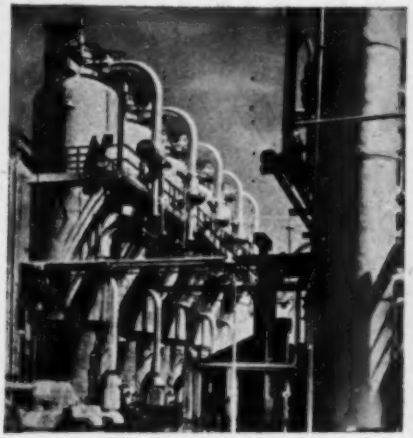
● Railroad men know it's smart public relations to keep passenger trains smartly finished at all times. That's one reason why 85% of America's leading railways use Du Pont Railroad Finishes on passenger-train equipment today.

Every DUCO and DULUX Railroad Finish is specially formulated to stand up to the rough treatment railroad equipment undergoes . . . retain gloss and color despite exposure to smoke, fumes, cinders, hard knocks and weathering. They are outstanding examples of the more than 12,000 finish formulas Du Pont paint chemists have developed in collaboration with industry—for industry.

Whatever your problem involving finishes—reducing manufacturing or maintenance costs or improving the appearance, durability or sales appeal of your product—contact the Du Pont sales technician in your area . . . or write E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington 98, Delaware.



STANDARD BEARER FOR THE LINE! The appearance of a locomotive reflects on the organization behind it. The colors and insignia it carries immediately identify the line. With quick-drying Du Pont DUCO Top Coats, this giant Diesel locomotive can be finished in many different colors in one day—colors that keep their sparkle through long periods of constant exposure.



ACRES OF STEEL SAFELY PROTECTED! To fight rusting of metal surfaces . . . to protect the huge capital investment that oil refineries represent, oil men count heavily on DULUX Metal Protective Finishes. The DULUX Primers are formulated to resist rust chemically, in addition to providing a fine base for finish coats. The DULUX Top Coats form a highly effective physical barrier to moisture.

GUILLOTINE FOR FINISHES! The Impact Tester, which resembles a guillotine, is one device Du Pont paint chemists use to develop finishes with exceptional impact-resistance. A trigger is tripped and a heavy weight is sent crashing down on a test panel, severely denting it. Thus, the effect of shock on the flexibility and adhesion of the paint sample can be compared with standards of highest quality.

SEWING UP SEWING MACHINE SALES! Like so many other manufacturers, makers of sewing machines find that sales go up when the natural beauty of fine wood is enhanced with Du Pont Furniture Finishes. The soft, luxurious sheen they provide makes women want a sewing machine as a piece of furniture as well as an aid to homemaking. What's more, the finish stays beautiful for years.

DEPEND ON DU PONT FOR BETTER FINISHES

PAINTS • LACQUERS ENAMELS • VARNISHES THINNERS • STAINS AND SPECIAL-PURPOSE FINISHES FOR INDUSTRY

DUCO and DULUX are Reg. U. S. Pat. Off.

DU PONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING ...THROUGH CHEMISTRY

Bakes Different Finishes

OIL BURNERS, like many other pieces of equipment for home and industrial use, must be given a durable and attractive finish. This is especially true of oil burners used in homes. To meet customers' requirements we use three different types of finish—gloss enamel, one-coat hammered finish, and one-coat wrinkle in red, blue and green.

These burners are constructed of various gauges of sheet steel and aluminum and cast aluminum. Baking the finish satisfactorily on the various thicknesses of sheet metal and cast parts in a single infra-red oven required considerable thought, study and planning in order to accomplish the desired results.

Different Travel Levels Through Oven

The infra-red electric oven includes six banks of lights, three on each side. Lamps are set in wide-angle gold-plated reflectors. In the accompanying chart I have shown the lamp arrangement for three banks of lights on one side. The other side is identical.

We designed and built conveyor racks which support different groups of parts at different heights or levels as they pass through the infra-red oven. For example, the housings on certain models of oil burners are made of 16 and 18-gauge steel. These housings are hung so that they will pass through the center of the oven where they receive the direct heat rays from lamps in rows No. 2 and 3 (see diagram).

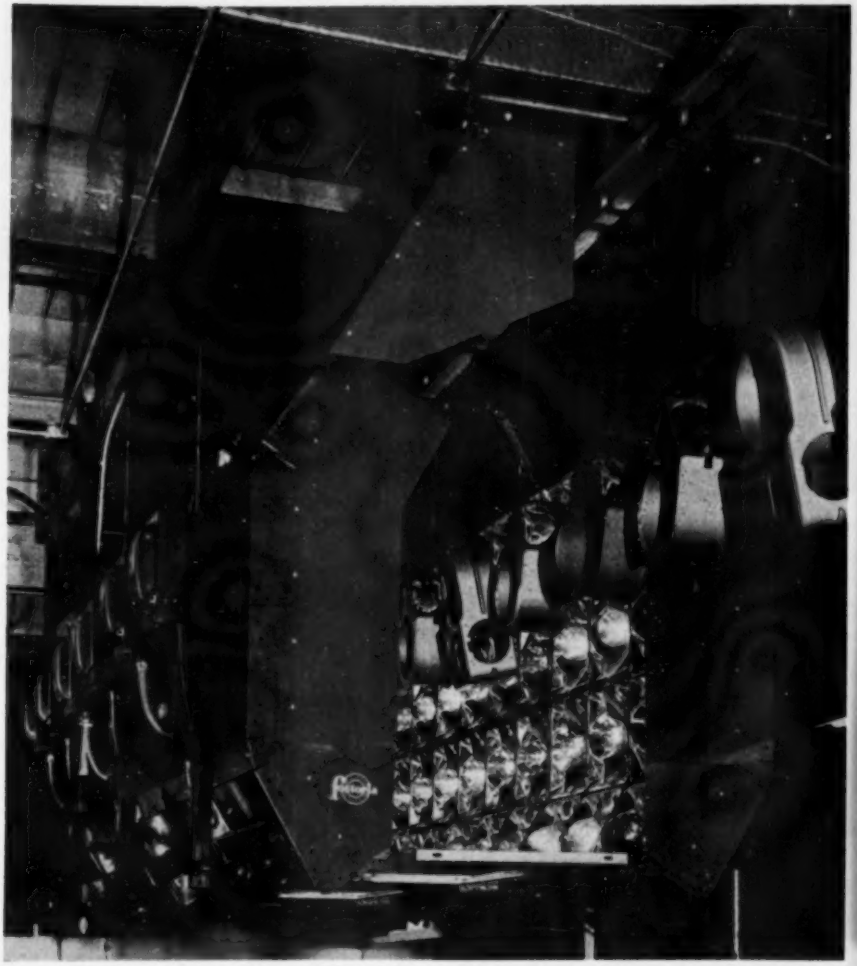
The drawer covers on some models are made of 0.040 gauge aluminum. These covers are so located that they pass through the oven about 6-in. from the top, where they receive only the rays from lamps in row No. 4.

Oil burner parts made of sheet steel, sheet aluminum and cast aluminum are cleaned, painted in one of three different finishes; all are sent through the same oven, some at one level, others at another, to take care of the different baking heats required.

Cast aluminum housings, used on other models, move through the middle of the oven, between rows No. 2 and 3. However, for this job, the 250-watt and 375-watt lamps (used to bake the finish on sheet metal parts) are replaced in banks

By Harry Miller and Boise Rountree, Automatic Burner Corp.

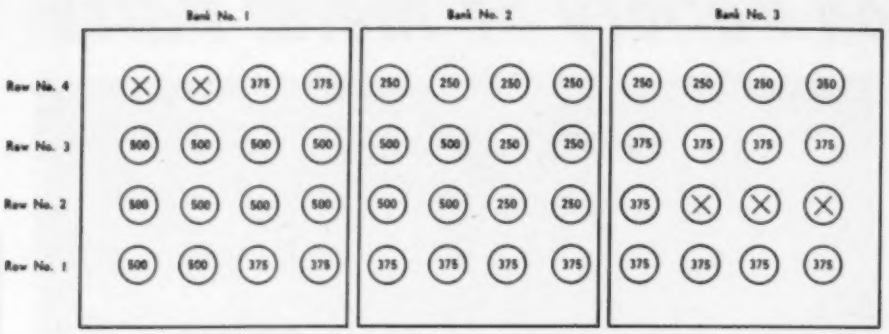
on Variety of Metal Parts



For a different baking heat, parts can be hung to travel through oven at a different level.

2 and 3 by 500-watt lamps to bake the finish on these castings.

Castings, being thicker than thin sheet metal, require more heat to bake their coatings in the same time interval. Because of this fact, cast aluminum housings are usually not put through the oven until a considerable quantity has accumulated—a sufficient number to make



Positions and sizes of lamps at each side of infra-red oven. Conveyor travels left to right.

the change of lamps worth while for a reasonably long run.

In planning the conveyor racks, the location of the various burner parts was determined by means of thermocouples.

Hand Wash Cleaning; Spray Painting; Baking

The finishing system is quite simple. All burner parts are hand washed in trichlorethylene and hung to an overhead monorail conveyor with hooks spaced on 16-in. centers. This conveyor is driven through a variable-speed drive at 20-in. per minute. In the spray booth the required material is applied. For gloss enamel and one-coat hammered finish, we use an atomizing pressure of 50 to 60-lbs., and a fluid pressure of 10-lbs. For wrinkle enamels the atomizing pressure is the same but we use 15-lbs. fluid pressure.

Oil burner parts travel about 12 minutes to flash (air dry) before they reach the elevated infra-red electric oven where the finish is baked for six minutes at 320° F. Upon leaving this oven the finished parts cool as they travel for 25 minutes before reaching assembly lines.

N. P. V. & L. A. Convention in Atlantic City, Oct. 29-31

Announcement was made by President Joseph F. Battley that the National Paint, Varnish & Lacquer Association and the Federation of Paint & Varnish Production Clubs will hold their annual conventions in Atlantic City this November.

The National Paint, Varnish & Lacquer Association will meet first, holding its convention on Monday, Tuesday and Wednesday, October 29, 30 and 31. The Federation will meet on Thursday, Friday and Saturday, November 1, 2 and 3.

Headquarters hotel will be the Chalfonte-Haddon Hall with business sessions of the Association and the Federation being held at the Haddon Hall. The Paint Industries Show will open on Wednesday, October 31 and close on November 3.

This will be the 63rd annual convention of the National Association and the 29th annual meeting of the Federation. Business sessions will be planned and presented in keeping with the conditions and problems of the day, with particular reference to our National Emergency Program of mobilization and conditions confronting the industry at that time.

Joint announcement to members of the paint industry and the Federation was made by Joseph F. Battley, President of the National Paint, Varnish & Lacquer Association and R. D. Bonney, President of the Federation of Paint & Varnish Production Clubs.

It's Tops in Cribbage

Best hand in cribbage consists of 4 fives and a jack, as shown here. It pegs 29 points.

TORIT DUST COLLECTORS

Torit Dust Collectors are self-contained units for capturing and cleaning dust laden air from around grinding, polishing and other dust-creating machines. They are available in many sizes and models.

Tops for handling your dust problem is a

TORIT DUST COLLECTOR

Peg industrial dust problems with a Torit Dust Collector. Compact as a cribbage board it fits into small space, and can be set close to machines without disturbing present or future production set-ups.

You score on many points with a Torit Dust Collector. Installation and maintenance costs are low. Fast starting, and with no long pipelines to energize, it can be wired to the machine switch so they start and stop together. It also recirculates the cleaned air to maintain room temperature, and minimizes the danger of abrasive dusts damaging equipment or interfering with working conditions.

Deal yourself in on this practical solution to your dust problem by writing to:

TORIT

Manufacturing Co.

300 Walnut St., St. Paul 2, Minn.

P. S. Ask for latest Torit catalog.

Materials Supplies Equipment

"Glue-Rite 20" Weatherproofs Animal Glue

For Government work or civilian jobs that include the use of glued joints in wood parts or products, which are or may be subjected to outside exposure, a treatment for animal glue to make glued joints in wood weatherproof, is announced by The Liquafill Mfg. Co., 823 Richard St., Dayton 3, Ohio.

The product is called Glue-Rite No. 20. It is usually added in the proportion of 2-oz. of Glue-Rite No. 20 to one pint of hot glue solution, or one pint of G.R. 20 to one gallon of hot glue solution.

Many wood carrying cases and Chaplains' Organs used in World War II were glued with animal glue treated with this special product.

New Coatings for Zinc and Steel Simulate Copper, Brass, Bronze

A solution to the unavailability of copper, brass and bronze for fabricating or plating purposes has been found through the development of special surface coatings, according to Maas & Waldstein Co., manufacturer of industrial finishes, Newark, N. J., Chicago and Los Angeles.

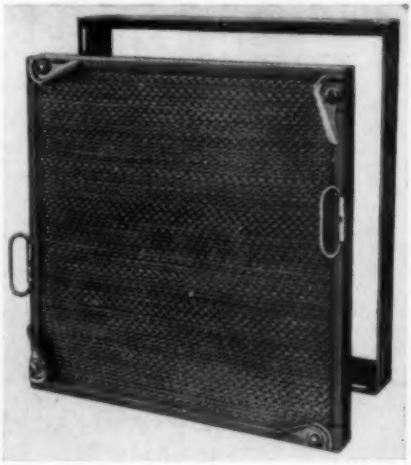
Known as "Platelustre," the new finish closely simulates the appearance of copper, brass and bronze when applied over zinc, steel or zinc-plated steel. The finishes have satisfactorily withstood 800 hours salt spray and weatherometer tests.

Platelustre finishes, applied directly on zinc, polished steel or zinc-plated steel, will provide both these qualities to an unusual degree, it is reported.

Platelustre will be of particular interest to makers of such products as lipstick shells, compacts, builders' hardware, lamps, and similar items in which the public has come to expect the familiar appearance of copper, brass and bronze.

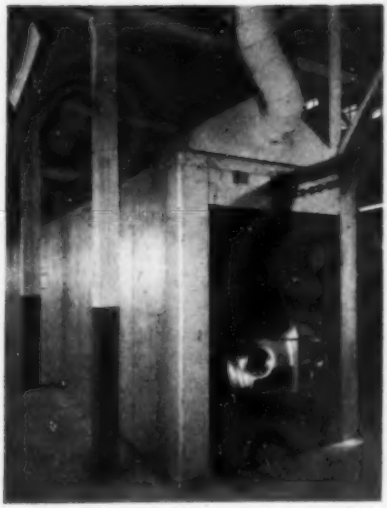
Air Filter Panel

A new high velocity unit air filter, the American Type HV, is a product of the American Air Filter Co., Inc., Louisville, Kentucky. It is made of corrugated strips of fine mesh wire in which the corrugations taper so



Efficient; easy to install; easy to service.

Our know how + Your needs = Better Ovens for You



FOR BETTER FINISHING IN YOUR PLANT . . . IT'S

YOUNG & BERTKE OVENS

EVERY TIME

As experts with years of practical experience in the design and installation of ovens and finishing systems, Young & Bertke engineers offer you practical help. No oven problem is too large or too small. Young & Bertke has designed and installed literally hundreds of ovens and finishing systems, from small laboratory testing ovens to the largest type conveyor ovens.

You are under no obligation when you consult us on your problems. We are glad to give you our advice and assistance.

Whatever Your Finishing Needs

- Baking
- Drying
- Japanning
- Lacquering
- Enameling
- Rack
- Conveyor
- Vertical Type
- Horizontal Type
- Tunnel

Ovens—Fume Removal Systems—Spray Booths

The YOUNG BERTKE Co.

1126 BUCK STREET CINCINNATI, OHIO

that when two strips are placed together they form a series of pyramid shaped pockets. The small ends of the pockets are closed to the air flow to eliminate any open air passages through the media.

These filters are designed to operate at velocities up to 500-fpm and maintain a uniformly high cleaning efficiency over a wide range of air velocities. They can be serviced in the conventional way with washing and charging tanks or reconditioned by washing out the accumulated dust with a hose and spraying with filter adhesive.

Electronic Accessory for Electrostatic Paint Spraying

Ashdee Products, Inc., 18029 Dixie Highway, Homewood, Ill., announces a new electronic accessory for paint spray units. It is known as the "Paint-Miser." According to the manufacturer, this new unit operates on the electrostatic attraction principle which precipitates up to 95% of the paint spray on the work, greatly reduces overspray, and cuts paint waste to a minimum.

This condition is accomplished by establishing a negative charge in the paint particles as they leave the spray gun. The paint spray containing the negative charge is then attracted to the item to be coated which is at ground potential.

The Paint-Miser Control Unit.

With this electrostatic method, spraying from one fixed position, allows the paint spray to reach around corners, cover top, bottom and hard-to-get-at places with a smooth, uniform coating. The savings in paint alone, it is claimed, pay for the unit quickly. The manufacturer further states that the Paint-Miser gives uniform surface coverage, with no build-up on edges. Articles like cabinets, metal furniture, light fixtures, and other items which ordinarily are difficult to coat, can be sprayed easily, quickly, with practically no hand touch-up.

The Paint-Miser is readily adapted to any finishing department; extensive changes in spray booths, plant layout or conveyors are not necessary. Operation is extremely simple, requires less manpower, less ventilation. The compact power supply unit is contained in a sturdy metal console cabinet with the control panel mounted on the top at a convenient operating angle. Easily portable. Overall size: 18x18x48-in. Output: O-100 pkv, DC, 4 milliamps max. Input 110/120 volts, 60 cycles, 500 watts. The Paint-Miser unit is sold on an outright purchase basis.

New Multi-Use Primer; Bake or Air Dry

The formulation of a new rust inhibiting primer that can be used for spraying or dipping applications, is announced by James B. Sipe & Co., paint manufacturers and engineers, Pittsburgh 16, Pa.

Multi-Use Primer, as the name implies, can be used on most any clean ferrous or aluminum surface. It is basically a rust-inhibiting synthetic primer; reduces with toluol or xylol

NIKOLAS

SINCE 1890

Quality Finishes

FOR THE

LIGHTING and

LAMP INDUSTRY

Fixture Illustration Courtesy
H. A. Framburg & Co.

- *CLEAR METAL & WOOD LACQUERS*
- *LACQUER ENAMELS*
- *SYNTHETIC COATINGS*
  BAKED OR AIRDRY—
  CLEAR, TRANSPARENT COLORS OR ENAMELS
- *NOVELTY FINISHES*

Eye Appeal Sells Your Product!

Why jeopardize your reputation with inferior finishes when the finest cost no more?

FOR INFORMATION, SAMPLES AND RECOMMENDATIONS WRITE—WIRE—OR CALL

G. J. NIKOLAS & CO., INC.

2850 WASHINGTON BLVD., BELLWOOD, ILL. • 33 GRAND ST., BROOKLYN 11, N. Y.

for spraying or dipping; will either bake or air-dry with equal facility and it can be cured simultaneously with its top coat in a one-bake operation. A 15-minute baking operation at 300°F. is sufficient to thoroughly dry Multi-Use Primer. Ten minutes of air-drying is adequate to allow handling.

Tests indicate that metal coated with Multi-Use Primer will withstand severe exposure well over a year without showing any appreciable signs of corrosion. It is available in gray, red, yellow and black.

Metal Degreasing Solvent

A powerful metal degreasing solvent for all metals, designated as "Tricyclodiene," is available to industry. Its solvent power is evidenced by its speed and thoroughness in removing oils and greases such as drawing, stamping, machining, cutting and buffing compounds, from all types of metal surfaces. It is a free-flowing, free-rinsing fluid with an odor that is neither unpleasant nor irritating. Can be used at room temperature as a dip, spray or wipe, and is usually but not necessarily followed by a rinse in clean solvent. A product of Colonial Alloys Co., Colonial Philadelphia Bldg., Philadelphia 29, Penna.

New One-Coat Clear Finish; No Sealers; No Rubbing

A new one-coat finish developed by the Elston-Nichols Co., 82 W. Washington Blvd., Chicago 2, Ill., eliminates the need for sealer coats in wood finishing, and dries on any surface to a high luster that requires no rubbing for gloss brilliance.

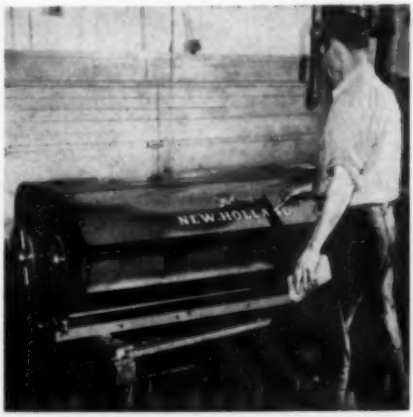
Patented as PLC-08, the clear finish dries within minutes. It combines the speed of lacquers, the brilliance of varnishes, and the film strength of acrylics, although its composition differs from all three. Its use is limited to applications where extreme brilliance is not objectionable, as it cannot be modified for a flat finish.

PLC-08 can be compared to liquid cellophane in appearance. According to Al Griffin, sales manager of the Elston-Nichols Co., PLC-08 has excellent cold check properties; its flow-out and blush resistance are equal to those of any other type of finish; and adhesion is unsurpassed for any surface, including aluminum. PLC-08 also has a high flash point . . . safer to use . . . complies with fire department requirements for bulk storage.

Decals Withstand Weather

The problem of properly marking farm equipment to withstand hard use and exposure to elements for brand name identification as well as for vital service and maintenance information has been solved by many manufacturers with decal transfers, according to the Meyercord Co., Chicago 44, Ill.

The New Holland bailer shown here



Running squeegee over newly applied decal.

CAREFUL

The care with which an industrial finish is compounded determines its success. Every step in the development of a finish is carefully planned and carried out at Mansfield Paint. Manufacturers know that our men understand their problems. We are careful to see that the paint we make meets the most exacting specifications.

The MANSFIELD PAINT COMPANY

Mansfield, Ohio Chicago, Illinois

FINISHES FOR INDUSTRIAL PRODUCTS

is being identified with the company Trade Mark and name. The low cost of decals plus the fact that they are quickly and easily applied by inexperienced personnel also makes it practical for New Holland to mark equipment in more detail with such valuable data as lubrication instructions, local sales and service information as well as general maintenance instructions.

The colorful decals are washable, weather proof and impervious to equipment vibration. Because they are mar-proof and may be applied to any surface, the decals provide permanent identification.

Safety in Pouring Acids

New GS No. 11 carboy tilter with pouring spout assures a safe, fast and easy method of pouring acids and other liquids from carboys.

Affords safety for anyone handling acids.

The functional design of this carboy cradle saves time, effort, and materials by its quick, easy action and advanced safety features.

The air vent pouring spout offers a smooth flow of acid without spurts or splashes. Made of acid-resistant rubber and plastic tubing for long life, the spout has a flow capacity of five gallons per minute.

This carboy cradle is a product of General Scientific Equipment Co., 2700 W. Huntingdon St., Philadelphia 32, Penna.

Synthetic Enamel Resembles Chromium

Parts that are normally chromium-plated can now be coated with a special synthetic enamel that produces a finish closely resembling chromium, according to Maas & Waldstein Co., manufacturer of industrial finishes, Newark, N. J., Chicago and Los Angeles.

The new finish—latest member in the M & V line of Britelume coatings—was developed as an effective answer to the shortage of chromium for electro-plating purposes. It is applied directly over zinc or steel by spraying and may be air-dried or baked.

Many industries have already tested and approved Britelume as a substitute for chromium on automotive parts, hardware, lamps, metal furniture, bathroom fixtures, etc.

Durable Bright Coatings to Replace Chrome Plating

Durable bright coatings to replace chrome plating for automobile trim, hardware, etc., are announced by Strathmore Products, Inc., 1970 W. Fayette St., Syracuse 4, N.Y.

Baquik Clear Chrome and Metal Coating X-2534 is a bake finish (15 to 20 minutes at 300° F.; one hour at 225° F., etc.). Metalbond Clear Air Dry Chrome and Metal Coating SL-300 is an air drying material that dries almost as fast as lacquer.

According to the company's statement, "It is now possible to produce finishes which are comparable in ap-

FAST, NEW METHOD FOR SANDING FILLER ON CASTINGS

Sundstrand *Straight-Line Action* Air Sander saves time...gives more uniform finish!

Here's the proven, *better* way to sand filler on castings. New Sundstrand Single Pad Air Sander gives a fast cut . . . quickly, evenly removes high spots . . . and because of its compact size and *straight-line action* gets into close quarters, up next to edges and moldings. Results in exceptionally fine finish . . . ideal for many other sanding operations on wood, metal, or plastics.

SUNDSTRAND

SUNDSTRAND AIR SANDERS

SUNDSTRAND MACHINE TOOL CO.

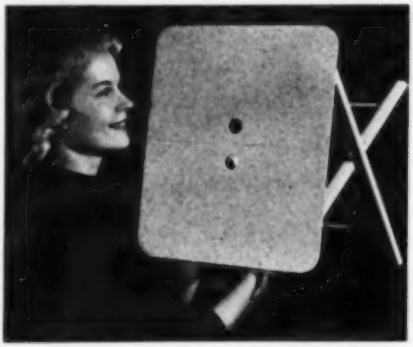
PNEUMATIC DIVISION, ROCKFORD, ILLINOIS

pearance to chrome or brass plating on any metal that can be plated with zinc. The method, which consists of zinc plating over the base metal, chemically treating the zinc plating, bleaching, and finally applying the protective top coating, requires no additional equipment, costs no more (and probably less than the conventional copper-nickel-chrome method) and exceeds the salt spray resistance standards established by the automotive manufacturer for chrome plating.

"The finish coat, of course, is the most important phase of the system, because of the fact that the resistance of the whole system is entirely dependent upon its ability to withstand abrasion, salt spray, moisture, sunlight and the elements.

"Auto parts producers are generally applying two coats, dipping the entire casting to assure complete covering of all surfaces, and then spraying the visible surfaces for extra protection.

"Both products require special blends of thinners—in the event that it is nessary to replace solvent loss in dipping, cleaning equipment, etc."



The top of this small folding table is finished in the new enamel "MultaColor," recently developed by United Lacquer Mfg. Corp., of Linden, N. J. The use of "MultaColor" makes it possible to apply two or more colors in a single coat, even without an undercoating. Its evenly distributed colors produce an attractive broken surface effect, useful for finishing a wide range of products. "MultaColor," which can be prepared in any combination of colors, may be applied to porous materials like wood, gypsum board, asbestos board and other composition materials. It is economical because it eliminates as many as four steps from the usual finishing operations.

Corrosion Preventative Wax

A new, non-toxic corrosion inhibitant to meet government specifications on the manufacture of food handling equipment has been developed by S. C. Johnson & Son, Inc., Racine, Wis.

Identified as Industrial Wax W-6119, the corrosion preventative was especially formulated by Johnson chemists to meet Defense Department Specification Mil-C-10382.

The material gives the needed protection to many types of food handling equipment, including utensils, stoves, refrigerators, immerson heaters, baking ovens, etc.

It can be applied by conventional dips, spray or brush methods to all types of metals. When removal is necessary, a standard vapor degreasing operation is used.

New Safety Solvent

"FO 128" is the name of the latest solvent in the line of "FO" industrial and fleet automotive equipment maintenance chemicals marketed by Fine Organics, Inc., 211 E. 19th St., New York 3, N.Y.

"FO 128" is offered for use as a safe alternative for carbon tetrachloride in applications where toxicity or solvent residues are factors. It may be used for cleaning both mechanical and electrical equipment parts, with complete safety to materials and men. The material is a clear, waterwhite solvent with drying time equal to

NACROMER is an excellent substitute for Pearl Essence where cost is a factor and where the high brilliance of natural pearl is not necessary.

It is—

- **Stable**
- **INERT**
- **NON-CORROSIVE**

Samples and literature sent on request.

THE MEARL CORPORATION

153 WAVERLY PLACE NEW YORK, N. Y.

"World's Largest Producer of Pearl Essence"

Stoddard solvent. Its flash point (P-M closed cup) is 140° F. Low toxicity, minimum dermititus effects, high flash point and zero residue on drying are factors that appeal to both shop and safety engineers.

Clear Finishes Used to Protect Zinc Surfaces

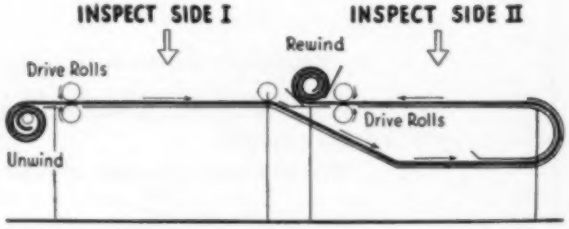
Manufacturers and plating shops, now switching to die castings and zinc-plated steel, can protect those parts with a special clear lacquer or a synthetic finish. For this work, Maas & Waldstein Co., Newark, N. J., Chicago and Los Angeles, announces Dulac Clear Universal Lacquer No. 462, which is air-drying, and Codur Clear Synthetic Y743 for baking. Both have fully demonstrated their ability to stand up under salt spray and weatherometer tests for the phenomonally long period of 800 hours.

Zinc die castings protected with these coatings are said to show no discoloration, even after long periods of service. Full technical information on both the air-drying and the baking type of these finishes is available on request.

To Inspect Both Sides of Coiled Strips

The Riverside Metal Co., Riverside, N.J., has designed an inspection table which cuts by 25% the time required to inspect coils of strip metal. The table arrangement can be modified to serve textile, rubber, linoleum, roofing paper and other fields in which material must be unrolled for inspection.

By guiding the strip as shown in the illustration, both sides are inspected in one operation, eliminating both turnover and rewinding. Unnecessary handling operations have been eliminated and inspection time has been cut at least 25%.



For Descaling or Derusting

The Magnus Chemical Co., Inc., Garwood, N.J., announces the development of D-Scale-RW, a compound used for descaling or derusting iron or steel parts in tumbling barrels. It can be used either where parts are self tumbled or with abrasive mediums.

Gulf No-Rust Compound

A new addition to its line of No-Rust Compounds is announced by the Gulf Oil Corp., 722 Gulf Building, Pittsburgh 30, Penna. The new product is called Gulf No-Rust No. 6. It is a rust preventive of the thin film type and will provide approximate surface coverage of 390-sq. ft. per gallon. It has no tendency to settle or separate in storage and, due to excellent adhesion, the coating when once applied and dried will not crack, chip, scale or disintegrate at temperatures down to 0°F., nor will it flow at temperatures as high as 190° F.

Gulf No-Rust No. 6 is suitable for application by brushing, spraying or dipping and is readily removed with stoddard solvent, kerosene, or similar petroleum solvents.

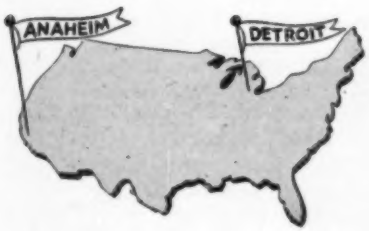
U. S. GOVERNMENT SPECIFICATION FINISHES

☆

Lusterless, semi-gloss & gloss
lacquers, enamels, undercoats & thinners
to meet virtually all U.S. Gov't. Specifications

☆

WRITE NOW
FOR BOOKLET



Rinshed-Mason Co.

5935 MILFORD AVE.
DETROIT 10, MICH

R-M

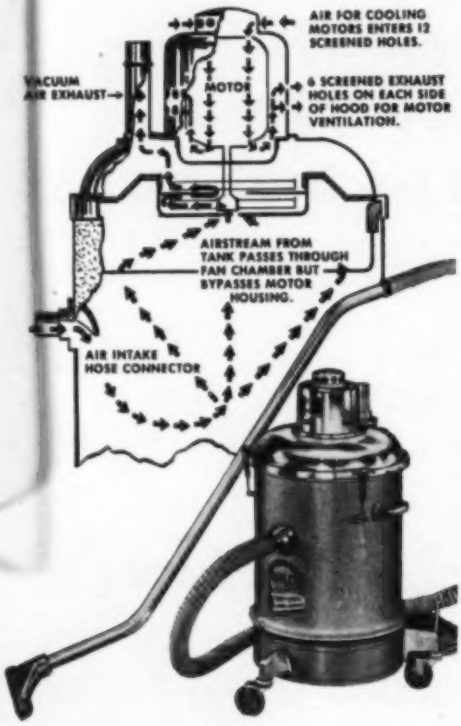
1244 N. LEMON ST.
ANAHEIM, CALIF.

Black Light Lamp

Scientific Instrument, Inc., Box 992, Homecrest Sta., Brooklyn 29, N.Y., designers, manufacturers & distributors of scientific detection instruments, announces a new "Blacklite" model BL-U300-cold cathode ultraviolet, fluorescent lamp unit.

Industrial Vacuum Cleaner

A completely new Portable Heavy Duty Vacuum Machine, developed by the Hild Floor Machine Co., 740 W. Washington Blvd., Chicago 6, Ill., is now available. The new Hild Vacuum is always ready to pick up either liquid or dry dirt without adjustment or change of parts.


AIR FOR COOLING MOTORS ENTERS 12 SCREENED HOLES.
VACUUM AIR EXHAUST
MOTOR
6 SCREENED EXHAUST HOLES ON EACH SIDE OF HOOD FOR MOTOR VENTILATION.
AIRSTREAM FROM TANK PASSES THROUGH FAN CHAMBER BUT BYPASSES MOTOR HOUSING.
AIR INTAKE HOSE CONNECTOR

The Hild Vacuum employs a "by-pass" motor which does not depend on the vacuum air stream for cooling. The air stream from the vacuum does not pass through the motor housing. Thus the motor cannot be damaged vacuum. A separate independent cooling fan keeps the motor running cool.

Heat-Resistant Bake Enamel for Metal Products

A new baking enamel that offers a high degree of heat resistance, has been developed by the United Lacquer Mfg. Corp., 1001 W. Elizabeth Ave., Linden, N. J.

Originally developed to provide an attractive protective finish for metal ash trays, Base Y2323 is expected to be used for a wide variety of other metal objects that are subjected to heat while in use, such as lamp shades, lamps, cigarette lighters and gas ranges. Base Y2323 adheres well to steel, aluminum, brass, chrome plate, gold and silver.

In addition to its excellent heat resistance, it is non-yellowing and gives good chemical, solvent and mar-resistance. It is available in all colors and in full gloss, semi-gloss and flat finishes. It may be applied by spraying or dipping.

Compressed Air Filter

The Hanson-Van Winkle-Munning Co., Matawan, N. J., has developed the Fulflo Air Filter to remove rust, scale, dirt, free oil and moisture from compressed air lines. The filter and replacement cartridges are available from stock in ¾-in. pipe size with mounting bracket.

The Fulflo air filter is sturdily constructed of steel. It does not have to be disconnected from the air line for

FINISHES

manufactured to
GOVERNMENT
SPECIFICATIONS

Our vital services to industry include the manufacture of quality finishes and lacquers for wood and metal surfaces to meet U. S. government specifications on defense orders, as well as your own rigid requirements for civilian products. May we send you full details?

CPL

COAST Paint & Lacquer Co. Inc.

P. O. BOX 1113, HOUSTON 1, TEXAS

service. The head is held in place with a single center bolt and only one nut need be loosened to change the filter element. A non-corrosive metal deflector passes oil and moisture to the sump, after which any remaining traces of free moisture and oil are separated by the cartridge which is sealed at top and bottom so that no unfiltered air can pass.

Giant Fire Killer

A new giant fire killer for extinguishing flammable liquid and electrical type industrial fires is announced by American-LaFrance-Foamite Corp., of Elmira, N.Y.

It is the new Alfco 350 Dry Chemical Wheeled Portable Engine, the largest unit of this kind now available, yet one which can be easily handled by two men.

It is claimed to be one of the most efficient machines which Alfco engineers have yet devised.

It carries the inspection and approval label of both Underwriters, and Factory Mutual Laboratories, with B and C classification.

"Stays-On" Metal Primer

Perfect adhesion to galvanized iron, aluminum, chrome plating, stainless steel, zinc, etc., is claimed for a new metal primer called "Stays-On". It can be brushed, sprayed or dipped and it dries in five minutes. "Stays-On" is a clear synthetic liquid for priming and bonding any surface, including glass. It produces a thin, tough impervious coat that hardens and improves with age.

The new primer produces the perfect "key" or primer coat for any type of finishing coat, including vinyls, lacquer or baking enamel. It protects aluminum, for which it has a strange natural affinity, against deterioration from chemical salts, gases and moisture. A product of Steelcote Mfg. Co., 3418 Gratiot, St. Louis, Mo.

Gasoline Space Heater

A small, gasoline-burning, space and transport heater, developed for the armed forces, has become the answer to scores of military and semi-military heating problems. Measuring only 11x21x24-in., yet capable of producing 60,000-btu. per hour and circulating heated air—fresh or recirculated—at 500 cubic feet per minute, enough to heat an average 5-room house, it is being manufactured by the Hunter Mfg. Co., 1550 E. 17th St., Cleveland 14, Ohio.

Produces 60,000-btu. per hour.

Equipped for radio interference suppression, it is being used extensively in radar and radio vehicles and shelters . . . . Thermostatically controlled, the heater averages little more than ½ gallon of fuel consumption per hour. Actually it is a combination heating and ventilating unit. When ventilation without heat is desired, its powerful blower system may be used to circulate fresh air throughout the vehicle or structure in which it is installed.

Protect grease fittings from *PAINT CLOGGING* with *Lubseals*

SNAP ON "LUBSEALS" BEFORE YOU PAINT!

● LUBSEALS are plastic caps which snap over standard grease fittings, sealing out all foreign matter.

● Snap LUBSEALS over grease fittings before spray painting to prevent paint clogging. After spraying, LUBSEALS may be removed and used over again on successive painting operations.

● Also snap on LUBSEALS when finished machinery leaves your plant. Bright red in color, LUBSEALS protect and flag every grease fitting, keeping out abrasive dust and metal chips for longer bearing life.

● Inexpensive . . . For a penny or two, your machines can be protected.

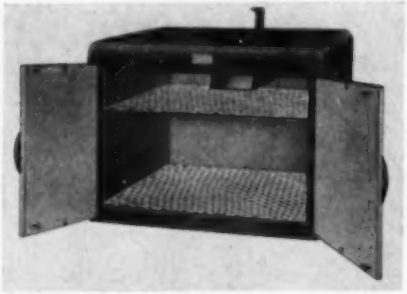
Free Samples on request. Write—

WILSON PLASTICS, INC.,

SANDUSKY, OHIO

Portable Electric Oven

A small portable electric oven capable of heating up to 225° F. in 15 minutes, is announced by Grieve-Hendry Co., Inc., 1101 N. Paulina St., Chicago 22, Ill.



Size 29x24x20½-in., inside measurement.

Construction is heavy gauge steel; asbestos air-cell insulation. It can be operated from any 110-volt outlet; has removable shelf and drip pan. Fresh air is drawn in and stale air driven out through specially located vents by means of a fan driven by a motor mounted outside the unit.

Ovens are so constructed that one will nest on top of the other so they can be used in groups if desired, or they can be operated as individual ovens; or selected ovens in the group can be cut-out or heated at different temperatures when desirable.

Related Products Manager at P. & V. Div'n of Glidden Co.

Promotion of Robert P. Morris to the position of Related Products Manager was announced recently by the Paint & Varnish Division of The Glidden Co. Mr. Morris has been with the Glidden Co. since his graduation from Dartmouth College in 1934. He served as an officer with the U. S. Navy from October, 1941, to March, 1946.

At the same time, Mr. Duncan announced the appointment of Andrew J. Duncan to succeed Mr. Morris as executive assistant.

British Industries Fair

American buyers visiting the British Industries Fair this spring can take advantage of many special arrangements made for the convenience of overseas businessmen. This great annual trade exhibition, scheduled for London and Birmingham (England) from April 30 through May 11, will put British goods on display in record volume and variety.

From the British Consulates in 24 major U. S. cities, buyers can obtain advance copies of the B. I. F. catalog, and receive introductions to trade and business groups in Britain.

Special mail and air services will link London and Birmington. In London, special motor coaches for buyers will operate between the two exhibition halls—Olympia and Earls Court. Automobiles can be rented at a reasonable cost; gasoline is not rationed.

Free Classes on Spray Painting Offered by Binks Mfg. Co.

The Binks Manufacturing Co., 3122 Carroll Ave., Chicago 12, Illinois, announces schedules through June for its Spray Painting School. New classes will be held Monday through Friday, April 2 to 6, May 7 to 11 and June 4 to 8.

To assure attention to individual problems, classes are limited in size. Instruction is provided by Binks as a service to industry, with the express purpose of raising finishing standards and reducing costs. Classes are open to anyone wishing to attend.

Special efforts are taken to make the course attractive to factory executives, foremen, supervisors, and business executives. Binks believes that many industrial executives would like to be more familiar with spray finishing, because they are responsible for lowering production costs through the development of improved finishing methods and equipment in their plants.

The Binks Spray Painting School continues under the direction of William Beacham, well-known paint chemist and spray painting authority. Mr. Beacham gives classes a firm grounding in spray painting, teaching them correct methods and, at the same time, showing them how to avoid the common causes of faulty spraying. The assembly and care of spray guns is taught as well as the operation and function of related equipment.

Those wishing to attend Binks Spray Painting School should apply two or more weeks in advance so that appropriate hotel reservations and other accommodations can be provided. Executives, plant managers and foremen who are unable to attend in person are urged to make reservations for plant personnel who would benefit from this training. No tuition is charged. However, students must pay their transportation and living expenses while in Chicago.

A Quick, Smooth, Uniform coating—assured by
BARRETT GALVANIZING AND HOT TINNING CENTRIFUGALS

BARRETT CENTRIFUGAL GALVANIZER is driven with high torque head and has an equalized disc brake for quick stop.

With the Barrett Whizo Galvanizer, excess metal is quickly removed from small parts after dipping in molten metal, in fact, much faster and more uniform production is assured. Parts will also pass the most rigid inspection for quality.

The method of handling is simple and easy. Work to be coated is placed in a round basket and submerged in molten metal. When thoroughly heated, the basket is placed in the Barrett Centrifugal to be immediately accelerated to high speed, the excess metal being thrown off before it can cool.

A quick pick up and stop (from 2 to 3 seconds each) assures maximum production with an even thickness of coating.

Machines furnished with or without heated surrounding drum, in capacities from 40 to 240 loads per hour, handling from 5 to 100 lb. loads. When used for tinning threaded work, rethreading has been found to be unnecessary.

Barrett Centrifugals are used extensively, combine speed with convenience of operation and the utmost in safety. They are highly developed to meet all reasonable requirements, have self-contained motor drive and occupy a minimum of floor space.

Send at once for full details of Barrett Centrifugal Galvanizer

THE LEON J. BARRETT COMPANY
Designers and Builders of Centrifugal Machinery
1703 GRAFTON ROAD WORCESTER 1, MASS.

ELECTRO COLD STRIPPER

A RADICAL ADVANCE IN SPEEDY FINISH REMOVAL

▸ Used cold. Non-inflammable. Non-injurious to hands or metal.

▸ Removes paints, lacquers, enamels, synthetics and wrinkles almost instantly. You can see the finish literally "pop off". No bother—no fuss. Simply dip the article into Cold Stripper, wait a few minutes for film to loosen, shake well and let set a few minutes. Then wash with pressure stream of water or wipe well with rag AND REFINISH AT ONCE.

▸ Will not affect aluminum, brass, copper, magnesium, zinc, steel, cast iron or their alloys in the time required for removal of paint film—even when metal is precision ground or machined.

Write for sample and quotations—or order 5 gallons at drum price.

ALLIED FINISHING SPECIALTIES CO.
2641 W. GRAND AVE. CHICAGO 12, ILL.

1951 LOOKS ALL RIGHT FOR PAINT INDUSTRY

Gen. Joseph F. Battley, (second from right) president of the National Paint, Varnish & Lacquer Association, talks over the future of the Paint industry with (l. to r.) Ray Hill, national advertising director of the association; Howard E. Wise, president of The Arco Company and also president of the Cleveland (Ohio) Paint Club, and Daniel Boland, assistant general counsel for the national association.

The conference took place in Cleveland, where Hill outlined the association's 1951 advertising program to 170 members of the Cleveland chapter at Hotel Statler on Jan. 12, 1951.

Naming its meeting President's Night, the Cleveland association had in attendance 16 presidents of paint manufacturing firms in the Cleveland area, in addition to seven past presidents of the club. Gen. Battley's talk highlighted the program.

Changes in Personnel at Hilo Varnish Corp.

Hilo Varnish Corp., Brooklyn, N.Y., announces that:

James Williams will take over as Industrial Sales Manager, with particular emphasis on work in the field with the salesmen—an important activity at this time of preparedness.

John H. Schumann, who has had considerable selling experience in addition to his sales direction work, will take over the Hilo Industrial Connecticut territory.

William L. Schwalb, for many years active in factory management and contact with raw material salesmen through purchasing, will take over the Hilo Industrial selling field in N. J. north of Trenton.

West Coast Chemicals & Solvents Corporation

West Coast Chemicals & Solvents Corp. has appointed Griffin Chemical Co., San Francisco, exclusive Northern California sales representative for all products manufactured by its subsidiary, Lac Chemicals, Inc., Culver City, Calif.

The extensive modern plant of Lac Chemicals, Inc., in Southern California, was acquired last September by West Coast Chemicals & Solvents. Lac is one of the leading producers of industrial alcohol on the Pacific Coast, having an annual capacity for the manufacture of 2,500,000 gallons of ethyl alcohol and proprietary solvents for industrial uses.

Conveyor Line
Finishing Problems

Years of experience and background in setting up Conveyor Line Finishing schedules have enabled our technical men to recognize the basic problems as they develop. These problems are as numerous as they are diversified.

No chain is any stronger than its weakest link nor is a Conveyor Line Finishing operation any better than the bottle necks which interrupt the schedule movement of the line.

If your present finishing schedule is not giving you the desired production and if your percentage of rejects is too high, then you need the kind of service we offer.

If you are planning to convert your finishing production to Conveyor Line Finishing, our technical men have the "know how" to set up your schedule of operations and to recommend the materials to be used. They are at your service, without obligation. A phone call, a wire or a letter will give you the details of the recommended procedure to work out and solve your particular problems.

OUR 76TH YEAR OF SERVICE

The Lawrence-McFadden Co.

Headquarters for Fine Finishes Since 1875

Manufacturers of

FILLERS—STAINS—VARNISHES—LACQUERS—SEALERS—PRIMERS AND SPECIAL FINISHES FOR CONVEYOR LINE PRODUCTION

7430 STATE ROAD **PHILADELPHIA 36, PA.**

More About "Dy-Chek"

We would like to know more about Dy-Chek, the Dye Penetrant Method of Inspection, as per comment on page 98 of *Industrial Finishing*, January 1951. Will you kindly advise us as to where this information may be obtained?—*G.C.D.*

Write Dy-Chek Co., 1513 E. Broadway, Hawthorne, Calif.—*Editor.*

Cleaning Plus Phosphatizing

We have noted in "Letters from Readers," December issue, page 72, a letter regarding cleaning and phosphatizing metal. This reader advises you of his interest in the article which appeared in October issue on pages 24-28. He is particularly interested in a process where the metal cleaning and phosphatizing is accomplished in one operation.

We would like to point out that the advertising to which you draw the reader's attention covers an entirely different product than that mentioned in the article. We do not believe that it is the type of product in which the reader is interested.

We believe that this reader may be interested in our product, "Minit Kote" which, as far as we know, is the only material on the market that cleans and phosphatizes in a single operation . . . *Klem Chemicals, Inc.*

Dehydrate Paint Sludge

Because we read *Industrial Finishing* magazine regularly each month, we thought you might be able to give us some help in locating a firm who can dehydrate paint sludge for us from water wash spray booths. We would prefer to have someone reasonably close to Pittsburgh and are interested in recovering synthetic white sludge and also the sludge from a colored paint.—*S. J. Co.*

In a letter we are naming a few concerns that do this work, the closest one we know of being in Cleveland, Ohio.—*Editor.*

Fluorescent Colors

We are interested in the fluorescent colors discussed on page 119 of January 1951 issue of *Industrial Finishing*. We would appreciate your informing us, if possible, who we might contact to obtain more information on the development.—*S. R. & Co.*

Several concerns can supply them. In a letter we are naming a few of them.—*Editor.*

Stripper to Dissolve Aluminum

In the past several months I have been searching for a stripper that would dissolve aluminum. I have carefully watched this publication . . . Thus far in my search, I have gotten several leads through *Industrial Finishing*. My problem is as per the following:

I have a process within the plant that requires the casting of aluminum into ferrous materials. In this pro-

Ease of Operation...

SPEEDS PRODUCTION

"Mity-Midget"
Weighs 4 lbs.
Costs $79.50

Though powerful and fast, National Sanders have a minimum of vibration because of a patented counter-balance system. The Model 400, "Mity-Midget", has a 3/16" orbital stroke at from 5000 to 6000 rpm. Its operation is smooth and effortless with no tendency to dig or gouge. It is light-in-weight...and features a comfortable grip that fits the hand naturally. Your finishing room employees will be able to produce superior work in the shortest possible time with National Sanders. Write for details today.

NATIONAL AIR SANDER, INC.
2818 AUBURN ST., ROCKFORD, ILLINOIS

cess we sustain a certain quantity of defective shots, necessitating the removal of aluminum in order that we may salvage the ferrous parts, which are rather expensive, because of their mating value.

We are, therefore, hoping that you know of a number of commercial strippers that are made in the manner which may be suitable for the application outlined above. Any assistance that you may render in this search will certainly be appreciated. —*R. Co.*

We have given this concern a few names, but would like to hear from someone who is reasonably sure about a material that will do the job required.—*Editor.*

Spray Painting Bombers

We are interested in an article entitled, "Largest Spray Painting Enclosures for Bombers", which appeared in this journal for November 1942 (pages 28-32). We shall be favored if you can supply us with a copy.—*S. & S. Ltd.* "The First Manufacturers of Aircraft in the World."

Tear sheets of the article are being sent to you. We have no complete copy of an issue that far back.—*Editor.*

We Make Flock Adhesives

With reference to the letter from C.T.P., Ltd., Melbourne, Australia, on "Flock Coating Adhesives", in January 1951 issue, page 86, we would appreciate your forwarding our name and address to the above, inasmuch as we are manufacturers of all types of flock adhesives.—*Lacquer Corp. of America.*

Thank you for telling us. We are adding your name to our list. Full name and address of the firm in Australia is being sent you by letter. —*Editor.*

Gold & Silver Lacquers

We would appreciate any information you can supply us relative to a lacquer in gold and silver which we could spray on steel to simulate a polished lacquer, gold brass pen or pencil barrel.—*M. & R. Co.*

Names supplied by letter.—*Editor.*

"Spray Tumbling" is O. K.

Your Letter of December 28, 1950, and the enclosed 4-page treatise on "Spray Tumbling" by E. G. Sederquest was received. (See pages 92, 94 and 96, Jan. 1951 issue).

We were indeed indebted to you both for the basic help that was received.

Tests were made, following Mr. Sederquest's letter, and tumbled sprayed plastic pieces were submitted. They were acceptable 100%. Mr. Sederquest's reasoning was so practical that we saw success even before we made the test.

I am certain that other subscribers to your valued publication would appreciate his article in their finishing problems.

May we thank you again for the help you have been to us. We are enclosing an extra copy of this letter should you wish to forward it on. —*R. Mfg. Co. (in California).*

Folding Table Finish

We have a small order for folding chairside living-room casual tables. We want to apply a finish that will be attractive and unusual. One idea we've had is to use a soft green alligatoring type of enamel that has

BETTER USE

America's Most Imitated

FURNITURE FINISHES

IT'S AMERICA'S MOST SENSATIONAL LACQUER FINISH

If YOU knew what WE know about furniture finishes, *Perfection Finishes Would Be Your Choice.*

And NOW . . . PERFECTION offers LACQUER . . . FLATTENED BY SYNTHESIS . . . giving the MOST POSITIVE rubbed effect appearance . . . in grades to suit your pocketbook and drying time.

With these outstanding advantages

CLARITY OF GLOSS LACQUER EVEN IN LOWER SHEENS • WILL EITHER GLOSS OR DULL RUB • SMOOTHNESS • WON'T HAZE OR SWEAT BACK • LIQUOR PROOF • A WAXED FEEL

PERFECTION PAINT & COLOR COMPANY

715 E. Maryland St., Indianapolis 2, Indiana

Perfection SYNTHETIC FLAT FINISHES

WATER-PROOF LIQUOR-PROOF

gold color dusted into the cracks. We have seen this type of finish occasionally but don't know how it is accomplished, nor from whom to obtain the materials.

Probably there are other types of antiquing or other unusual rough or multi-color finishes that might serve our purpose. Can you help us with suggestions and instructions?—*W.W. Co.*

Some suitable finishes for this purpose have been publicized in the "Materials; Supplies; Equipment" section of recent issues of this magazine. These and others are named in a letter we are writing you.—*Editor.*

Air Dry Wrinkle

We are interested in obtaining the names of paint manufacturers who produce an air-drying wrinkle finish paint, and shall appreciate your giving us this information.—*M. Safe Co.*

Our reference card on this shows the names and addresses of three firms who have made this type of material. These names are going to you by letter.—*Editor.*

"Odorless" Paints? Not Today!

I noticed an inquiry in January issue about odorless paints. (See page 88.) I would have probably let it pass, except that the correspondent mentioned that he wanted to paint hospital rooms with it.

I have done some work on these materials. While the manufacturers may claim that their paints are odorless, believe me, the fumes are just as obnoxious as conventional materials. In fact, anyone who paints a closed room with them had better not try to live in it for at least 12 hours.

My own opinion is that these odorless solvents iritate the eyes and throat far more than those paints that have an odor. Most companies who make them have found this out and are not pushing them.—*G.A.C.*

Orange Peel Article

We are interested in an article on industrial finishing which appeared on page 66 in one of your most recent publications. We believe the article was written by Mr. Beacham. Will you please send us a copy of the magazine and bill us for it?—*M.Co.*

The article is entitled, "Orange Peel . . . . Its Causes and Remedies". It begins on page 66 and ends on page 74 of Jan. 1951 issue. Mr. Beacham's part of it begins near the bottom of page 70. We are sending you a copy of that issue.—*Editor.*

Roller Coating Machines

We are interested in obtaining information on Roller Coating Machinery and shall appreciate learning whom to contact to obtain this information.—*K. Mfg. Co.*

Several concerns manufacture and sell roller coating machines. In a letter we are giving you the names and addresses of a few of them.—*Editor.*

Dry Fire Extinguisher

We note in the "Random Comment" for January issue, on page 4, a paragraph entitled, "Dry Fire Extinguisher". This sounds like something we would like, and we would appreciate the name and address of the manufacturer.—*W. H. Co.*

Write Ansul Chemical Co., Marinette, Wisconsin.—*Editor.*

Lacquers • Sealers

STAINS

GLAZES

FILLERS

ENAMELS

UNDERCOATS

SHELLAC

SPECIALTY FINISHES

•

Lacquers and Sealers in a wide variety of specifications. High or low solids. Glossy or flattened. For hot or cold spraying, for dipping or for special application methods. Tested for durability.

IN STEP WITH THE TIMES

JAMES B. DAY & CO.

CHICAGO 14

zeeland • michigan

herman miller furniture company

March 8, 1949

A. R. DeBurgh
DeBurgh Conveyors
Box 202
Redondo Beach, Calif.

Dear Mr. DeBurgh:

For several years we considered the possibility of installing a conveyor in our finishing department. However, each time we felt that our standard of quality was too high to allow us to finish furniture on a conveyor. We also felt that we had too great a variety of pieces and finishes to make finishing on a conveyor efficient. During this time we visited plants in which finishing conveyors were operating, but not until we saw the DeBurgh Conveyor did we begin to change our views and to consider it possible to finish our furniture on a conveyor.

We soon decided this system would fit our operation most satisfactorily. We have since installed a DeBurgh Conveyor and, while it has been operating only four months, we have had no reason to change our minds regarding its merits.

Following are some of the reasons for complete satisfaction with the DeBurgh Conveyor.

It has proved to be the best production control system we have ever had in finishing, therefore, our foreman can spend most of his time on quality.

It has considerably reduced our finishing labor cost per unit.

Production in the finishing department has gone up, while the number of employees in that department has gone down.

Our skilled finishers are now devoting all of their time to finishing instead of one-third of it to lugging as was formerly necessary.

Controlled finishing conditions give us better quality.

The conveyor is flexible so that we can change finishes very easily.

It is our opinion that this is the best conveyor we could have purchased for our type of furniture, and we believe it is flexible enough to be used with almost any furniture now being produced. We do not hesitate to recommend this system.

Very truly yours,

THE HERMAN MILLER FURNITURE COMPANY

Hugh DeFree
HDFigb

showrooms new york, one park ave • chicago, 1880 merchandise mart • los angeles, 816 so. figueroa

DeBurgh Conveyors

Patented and Patents Pending

Investigate!

For Assembly, Finishing and Upholstery

1741 K St., N. W., Washington 6, D. C.

Interesting
Distinctive finishes prepared by our Creative Studio are interesting, refreshing, and practical. They have attention arresting characteristics . . . sales appeal. Our skilled staff of artists conscientiously incorporate their experience and know-how to produce coatings that do a real selling job. We suggest that you avail yourself of their creative abilities. • Reputable firms are invited to send samples to be finished . . . no cost or obligation whatever.
No Tampering with Quality

Affiliate
GORDON BARTELS CO.
Roller Coating Specialists

ROCKFORD VARNISH *Company*
ROCKFORD, ILLINOIS
Manufacturers of Protective and Decorative Coatings

How to Coat Them

We are sending you a sample of a wooden wedge (about ¼x1¼x5½-in.) that we make which has to be given two coats of either orange or black shellac, depending on the print specifications. We have tried several ways of coating these wedges, for example, dipping and brushing off; not dipping but brushing on; and spraying on. Some of these wedges are half this width and length and, in spraying they blow off the tray. But the biggest headache in spraying was having the gun gum up. We have the average spray equipment, that is, compressor, spray booth and guns.

We do not have too many of these wedges to do, the orders ranging from 50 to 700 or 800 at a time. I think it would be safe to say that we do about 800 pieces a month.

Do you know of any faster method of coating these wedges? We would appreciate any information that you have. We have found hand dipping and brushing very expensive. I have heard of tumbling, but do not have the vaguest idea of what it is all about. Any information that you might forward to us would be greatly appreciated.—*H. & Co.*

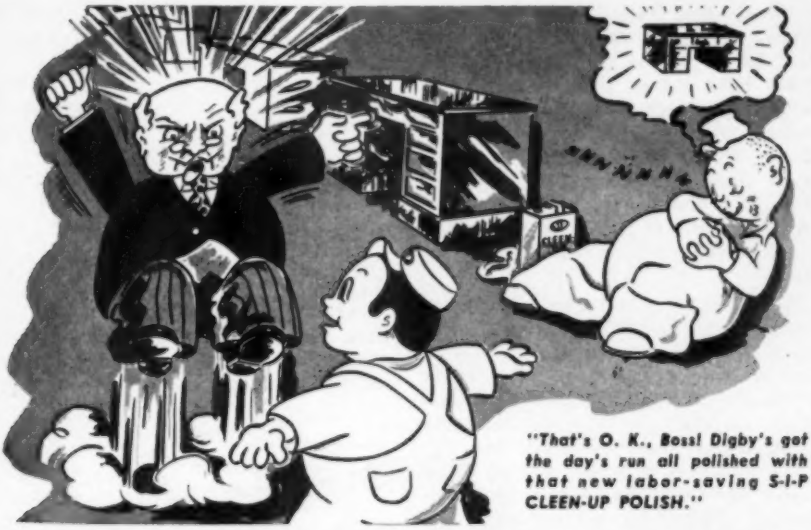
Try spraying these light pieces of wood with less air pressure, spraying straight down as the pieces lay on a wire-mesh tray. The overspray should be sufficient to coat the edges and ends in two sprayings—one from one side and the other from the opposite side. When the first spray coat is dry, lay another wire-mesh tray over each tray load and reverse the position of the trays. This will place the coated sides underneath and the uncoated sides on top for the second spraying.

If you feel that the wood blocks must be anchored in position on the tray, while they are being sprayed, use masking tape with the adhesive side upturned to receive the wood blocks. Perhaps you can secure double sensitive pressure tape which has an adhesive coating on both sides, so one side will adhere to the tray while the other side holds the wood blocks.

Your spray gun should work satisfactorily; if it doesn't, call in the representative of a reputable manufacturer of spray guns. Your spray man should know how to adjust and operate the spray gun to suit different materials and conditions. If he doesn't, and you want to keep him, send him to one of the free schools for instruction in spraying.

As for dip coating, you would need racks capable of carrying 50 or 100 of the blocks at one time. Sharp nail points, permanently attached to each rack, would stick into the ends of the wood blocks far enough to hold them. A guide could be devised which would aid the workman in spacing the blocks and driving the rack of multiple points into 50 or 100 blocks at one time.

The dipping machine should be one



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STAINS, LACQUER SEALERS AND CLEAR LACQUERS

in which the loaded rack of wood blocks is dipped vertically. Either the rack of blocks descends into and slowly lifts out of the coating material, or the rack of wood pieces remains perfectly still while the container of coating material is lifted up by power, to submerge the blocks projecting downward, and then it is lowered slowly at the same rate which the liquid paint flows off the wooden blocks.

If the coating material is not or can not be formulated to avoid leaving a clinging drop at the low end of each dipped block, it may be necessary to remove these clinging drops with a quick skillful stroke with a hand brush a few seconds after the dip.

We question whether coating these pieces by tumbling would be satisfactory. The sharp corners might become slightly rounded and "starved" for paint and the flat sides would stick together. Tumbling is best adapted for coating such items as short wood turnings or items that are more nearly round in shape.

The names and addresses of a few manufacturers of dipping machines are being sent you by letter.—*Editor.*

GLUE-RITE No. 20
for weatherproofing animal glues used on government work.
For information, write
THE LIQUAFILL MFG. CO.
821 Richard Street Dayton 3, Ohio

REPRINTS AVAILABLE!
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12-page article entitled
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as published in the August, 1950, issue of this magazine.
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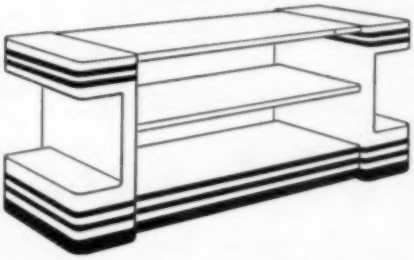
INDUSTRIAL FINISHING Magazine
1142 N. Meridian, Indianapolis 4, Ind.

How Do You Put on One Inch Stripes?

At the suggestion of Mr. Lehn of the Beugler Mfg. Co., we are writing to ask you if you have any suggestions on someone who could furnish equipment for putting a 1-in. stripe on the sales table as per illustration.



One of the tables to receive wide stripes.

At the present time we are painting in brown and masking and painting over again in ivory but we find this very expensive and slow.

Is there any equipment that will automatically put on the tape at the right level? Or preferably a striping tool that will stripe wide enough for this stripe?—*G. T. Co.*

If you are going to spray the colors you will have to use masking tape. Either do as you are now doing or spray finish the entire piece in ivory, then mask and spray on the brown bands.

We have never heard of a device for applying the masking tape in parallel bands quickly and accurately that is nothing practical for a job of this kind. *(Continued on page 102)*

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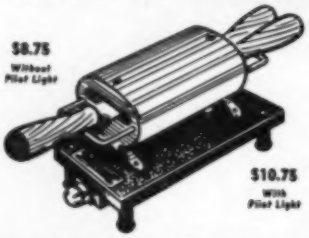

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If the object were smaller and perhaps more intricate, then formed masks could be made and used to shield certain surfaces while adjoining areas are being sprayed. However, we question whether masks (other than masking tape) could be made to fit up closely enough to these plain flat and rounded surfaces to allow clean cut spraying of the bands.

We also question whether a suitable fountain-fed roller is available for laying on stripes or bands as wide as 1-inch and 2-inches. If such a tool were available you would probably have a handling problem, as the surface being roller-coated would have to be in reasonably level or horizontal position and always under the roller-coating tool during the band-coating operation.

Your workman might use a striping tool that lays on a stripe ⅛-in. wide, make a series of parallel stripes on the ivory finished surfaces, and then use a narrow brush skillfully to fill in solid color between the proper parallel stripes, thereby making the brown bands clean and sharp at the edges. However this would take considerable time, perhaps more time than masking and spraying.

Another suggestion is to lay on the color bands by the screen process, through screen process stencils, with process paint. The rounded corners may be a problem but an experienced screen process man could probably take care of this easily. We recommend that you take this up with a company that either does commercial screen process work or one that designs and furnishes screen process stencils and everything required for such work.

Perhaps this is the answer to your problem. In a letter we are naming concerns that are in position to furnish screen process information and supplies.

Have you considered using decals?

Excellent decals are available in all colors, designs and degrees of luster and they have excellent adhesion to painted and enameled surfaces; they are durable too. A reputable decal manufacturer could probably take care of your problem effectively and economically.—*Editor.*

Detrex Field Representatives Attend Informative Meetings

To assist manufacturers in their conservation of critical items through an intensive service program, the field representatives and managers of Detrex Corporation have just held a series of meetings at Detroit. Latest manufacturing procedures and finishing specifications for defense materiel, and new product developments, were thoroughly covered, so that the field engineers can better serve those companies that have conversion problems.

Truck cab getting new coat of paint under the careful hands of Ray Lasswell. The truck cab, cleaned and masked for spray painting, is parked in the spray booth of new automotive repair shop operated by Caterpillar Tractor Co., Peoria, Illinois.

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Just fill out form below and mail today. We'll work out a Thinner *especially for you*, and send a sample. Think we can do it for less than 83¢ a gallon too!

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MAKING REPAIRS and PATCHES in WOOD FINISHES . .

By HERMAN HARDESTY
Star Chemical Co., Inc.

THAT OLD PROVERB, "A stitch in time saves nine", is as true in woodwork and wood finishing as in anything else. Theoretically, if there were no mistakes made, no mishandling of stock or materials, no misplanning at any place along the line, there would be no need for patchers. This would be what we all dream of, but unfortunately all of us make mistakes. Every furniture factory has one or more of these repair problems.

The most effective practice would be to prevent the damage; the next best is to stop it as soon as it is discovered. About 60% of the repair load can be wiped out by more careful workmanship, better handling and closer supervision.

Since some patching and repairing of finishes must be done, let's look for the logical places to do it and the procedures to follow. I intend to deal only with finish patching, so we will start in the finishing room.

Make Burn-in Repairs on Sealer Coat if Possible

All nicks, scratches, tear-outs, etc., that must be repaired in the finishing room should be burned in on the sealer coat—if and when possible. By doing this you can take advantage of your regular finishing procedure, that is, follow with the regular sanding, shading if any, and the protective coats of lacquer.

The burning-in job should be done with knives designed for this work. Putty-knives, case knives, grapefruit knives, chisels, files and screw drivers (I've found men trying to use them all) have no place in the production patching picture. A production knife must have a true straight edge with which to level and smooth the burn-in materials. The blade must be heavy enough to hold the desired heat. It must be made of a tough alloy steel to withstand the heat and constant cleaning, and it must be easy to handle. Burn-in material should be selected as to the proper color, ease of working, and resistance to the finish applied over it.

The main objection to sealer burn-in has been the tendency for the burn-in materials (stick shellac or stick lacquer) to lift or swell after lacquer is applied, but this trouble has been nearly overcome. A material now available will withstand double and triple coats of lacquer to the extent that there are no pull-outs or bad swelling.

Any burn-in job—if the material is applied correctly and if the ex-

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If finishing problems are swamping you—call on Reliance to get you out from under them. For when finishes are custom-built by Reliance they wear better, look better and are more economical. Reliance has the laboratories, imagination, resourcefulness and experience . . . years of specialization in the finishing field. Send your problems to us. Reliance field service is at your command.

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cess is picked up by the knife during the actual burning-in operation—is fast and very little, if any, sanding is needed to remove excess material. In fact, all of the excess can be removed with fine steelwool.

Applying Color to Patch; Padding or French Patching

All color work should be done on the first coat of lacquer, because the cabinet has all the production color (stain, filler, shading stain) it is going to get and the color man's problem is to make his repairs and blend the patch to the surrounding surface.

There are two common methods of applying color to patches. Both are good. One is by padding or French patching. This method has been used for generations. For small places or patches, where there is a great color variation, French patching is hard to equal, because of the ease of mixing and blending colors and the control of the size of the patch.

Technique of French Patching Padding Liquid; Dry Color

To apply a French patch, a small cheesecloth pad is used in conjunction with a good padding material (this material must have a minimum build) and dry powdered colors. First, moisten the pad with the padding material and apply to the defective spot, using a swiping motion in the direction of the grain. When the surface has enough material on it to be slightly tacky, apply the dry color or colors with your finger, placing it exactly where you want it. The colors may be blended by using any desired color combination on the fingers and rubbing the fingers together.

Continue padding and applying color alternately until the defective spot is covered. The proper color to use is the base color of the finished wood (imagine the wood minus all grain).

Graining the Patch to Match Adjoining Wood

After this base coloring is completed the patch should be grained to match the grain of the surrounding wood. Prepare a translucent mixture of dry color (to match the grain) and a slow thinner to use as a graining fluid. This method has one big advantage; the thinner tends to pull the color down into the patch, eliminating surface brush strokes and creating a third dimension effect.

The disadvantage is that the lack of a binder causes the grain to go "dead" and the patch will have to be coated with a finishing material. Apply this fluid with a small red sable brush, a thinned-out flat ox-

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Smart ...from style to finish

This fine example of Modern is built by Dantomuro Furniture, Inc., Brooklyn, N. Y., one of many manufacturers who find Kirker Wood Finishes superior.

The perfect complement to fine cabinet work and furniture styling, regardless of period, is Kirker Wood Finishes.

The modern buffet above is an excellent example of the emphasis to good design which the Kirker finish assures. A single foundation coat of lacquer sealer is applied to hold out the three coats of Kirker clear gloss rubbing lacquer which are rubbed out to a mirror-like surface revealing all the detail of the wood grain through this rich, deep finish.

Lasting furniture beauty, as well as maximum resistance to marring, alcohol, and cold checks, is insured with flexible, high-quality Kirker Wood Finishes.

KIRCO MODERN COATINGS

Kirker CHEMICAL COMPANY

ONE EAST ELEVENTH STREET • [illegible]

hair brush, a comb or corks, depending on the type of grain required.

Spray Painting; Graining; Top Coat Finish

Spray patching is the application of the base color with a spray gun; it is excellent on large surfaces. The color can be made by using lacquer-base colors, sealer and thinner. Again, after the base color is applied, the patch should be grained to match the surrounding wood.

No color patch should be considered as completed until it has a protective coat of finishing material over it. If it is to be rubbed there should be two coats over it.

Patching After Final Rubbing and Wiping

A third logical spot for patching, in a production setup, is after the rubbing and cleaning up. Here the problems are simplified if the work was done correctly before the finish coat was applied. About the only flaws that should be found here are occasional dents and rubbed-through spots. Dents will require burn-in repairs; rubbed-through places should be padded with a good Frenching material and the proper colors.

Those firms who, for various reasons, can have but two stations at which to do patching, can eliminate the sealer patching because it is costly and unsatisfactory to attempt color patching on the sealer coat, while it is possible and satisfactory to burn-in on first coat of finish.

If only one patching station is to be used, the final patching should be eliminated as much as possible rather than the "between coat" patches.

A color patch should always have a coat of finish over it. It is expensive to rub a case, put a patch on, spot it, then re-rub it! Get me? Even if the finish isn't rubbed, the extra work isn't justified because in this case the regular specified coat will cover the color patch on regular line procedure.

Joe Hart Joins Turco Products

Turco Products, Inc., Los Angeles, Chicago, Houston and Newark, announces the appointment of Joe Hart as Manager of its Metal Processing Sales Division. In this position, Mr. Hart will act as special sales representative and technical advisor to the metal processing and general manufacturing fields. Mr. Hart is a member of both the American Chemical Society and the American Electroplaters Society.

Metal Stripping Service

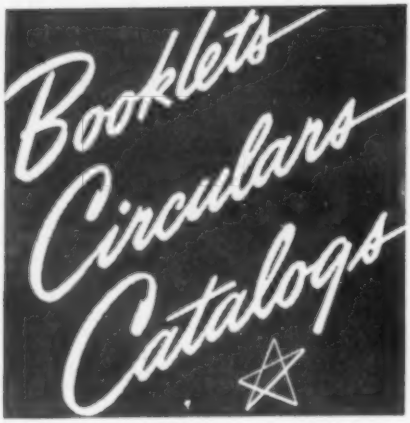
Stratford Co., Dept R, 207 Bay St., Bridgeport, Connecticut, announces the development of a new stripping process for removing metal coatings. The company utilizes the process to do custom stripping. It is stated that chromium, nickel, and copper can be stripped from zinc-base alloys, aluminum, copper, brass and steel without etching or pitting of the base metal. Zinc die castings are stripped clean so that they can be rebuffed to a high luster by means of only a wheel wipe.

Customer's samples are processed free and quotations are given promptly. The process is not for sale.

Rheem to Build Plant in N.J.

Rheem Mfg. Co., 570 Lexington Ave., New York 22, N. Y., has purchased a 30-acre plant site at Linden, N.J., and construction will start soon on a buiding with approximately 130,000-sq. ft. of manufacturing area.

To supply the New York metropolitan area, a complete line to manufacture Rheemcote lithographed and lined steel drums is being installed. The plant and equipment will cost in excess of $1,500,000.



New Screen Process Tools

A new 4-page folder which illustrates and describes several tools used by screen process workers, including a power squeegee sharpener, is offered free by The Naz-Dar Co., 469 Milwaukee Ave., Chicago.

Valve Bulletin Available

Bulletin 510. A line of valves for actuating air or hydraulic cylinders has just been introduced by Ledeen Mfg. Co., 1602 S. San Pedro St., Los Angeles 15, Calif. The firm also builds a line of actuating cylinders for air, oil, water or steam operation.

New Metal Cleaning Setup

A cleaning process for all meals has been worked out in the laboratories of Northwest Chemical Co., 9310 Roselawn, Detroit 4, Mich., utilizing emulsion cleaners of the W/O type, based on petroleum products to replace hot chlorinated solvent degreasing.

Bulletin D-107, Dipping Baskets

Proper selection of the right material for dipping baskets used in cleaning, plating, etching, bright dipping and deoxidizing cycles is made simple by a special table showing the correct material to use for any given purpose; also tables covering an extremely wide range of materials, meshes and sizes of wire for standard baskets. Special baskets are also available, designed and manufactured to individual specifications and requirements. Hanson-Van Winkle-Munning Co., Matawan, N. J.

Corrosion-Proof Linings

The Atlas Mineral Products Co. announces the publication of its new Corrosion Proof Linings Bulletin No. 4-1. This bulletin describes Atlas' complete line of corrosion proof linings, including sheet linings, solution or dispersion linings and miscellaneous linings. Write to 42 Walnut St., Mertztown, Penn., for your copy.

Tag Midget Moisture Meter

The TAG midget moisture meter, specially designed for instantly determining the moisture content of wood, lumber, plaster and wood products, is described in a new 6-page bulletin issued by the Taglabue Instruments Division, Dept. 67, Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark 5, N. J. Copies of bulletin 1295 may be obtained directly from the company.

Book of Testing Instruments

To measure viscosity, film thickness, drying time, gloss, color, adhesion, hardness, abrasion resistance, flexibility, or anything else connected with paint coatings, the Gardner Laboratory, 4723 Elm St., Bethesda, Md., offers a variety of devices and instruments all of which are illustrated and described in a new book of 32 pages, 8½x11-in. It's free.

Hinged Flat-Top Conveyor Chain Shown in Folder

A new Flat-Top Conveyor Chain is the subject of a 4-page illustrated Folder No. 2344, published by Link-Belt Co., 307 N. Michigan Ave., Chicago 1, Ill. It gives data on this light, durable, efficient type of conveyor chain and its cut tooth sprocket wheels.

Each pitch of chain consists of only a hinge type bevel-edged flat top link and a pin to hinge adjacent links to each other with an "overlap," assuring a continuous, smooth carrying surface and smooth transfers. The chain can be detached at any convenient pitch. No coupler links are needed.

Books on Protective Coatings

New literature and patent surveys covering protective coatings on metals and mothproofing agents are available from the Office of Technical Services of the U. S. Department of Commerce.

The surveys, prepared by the Quartermaster's Philadelphia Research and Development Library, emphasize develop-

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HIGHER CHEMICAL RESISTANCE

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ments in these fields since 1940. Entries include summaries or abstracts, as well as author, inventor and patent indexes.

PB 102 172 "Protective Coatings on Metals," 60 pages, 177 entries arranged in three parts — light-metal coatings, heavy-metal coatings and organic coatings—sells for $1.50.

PB 102 173, "Mothproofing Agents," 46 pages, 173 entries, sells for $1.25.

Orders should be addressed to the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C., and should be accompanied by check or money order payable to the Treasurer of the United States.

Materials-Handling Catalog

Modern Equipment Co., Inc., 2011 Cuming St., Omaha 2, Nebraska, manufacturer of industrial handling equipment, announces completion of a new and complete catalog on materials-handing equipment. This catalog covers the entire line of Meco hand trucks, platform trucks, barrel trucks, skids, dollies and a complete line of rubber-tired and semi-steel wheels.

Dust Collector Catalog

New 38-page catalog containing illustrations and specifications of the complete line of "Dustkop" Dust Collectors available in standard, pretested units is announced by Aget-Detroit Co., Ann Arbor, Michigan.

Illustrations are included of almost every typical dry grinding dust control problem; considerable space is also devoted to buffing and polishing dusts.

Booklet on Phosphate Coatings for Aluminum

The Douty-Spruance illustrated article on protection for aluminum was originally presented at a national convention of the American Electroplaters' Society. Recently this organization made the article available in printed form. It covers 24 pages 6x9-in. For a free copy write to the American Chemical Paint Co., Ambler, Penna.

New Metal Finishing Plant

The Metal Finishing Division formerly located in the Pyrene Mfg. Co. plant on Belmont Avenue, Newark, N.J., has now completed its transfer to enlarged quarters. It has taken over the Pyrene plant at 10 Empire St. Equipment of the newest type, designed for speed, efficiency and quality control, has been installed for metal cleaning, surface preparation, rustproofing, plating and painting.

The Talk of The Industry

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NU GLO
PATCHING STICKS

THE STICK THAT DOESN'T RAISE!

HINTS: Why not use a mixture of oil stain and naphtha on the clean-up brushes to stain the residue left by the rubbing procedure?

What isn't brushed out will be stained dark enough to stop those standard complaints.

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Industrial FINISHING Editorial

Paint, Varnish, Lacquer Sales are Up

According to the U. S. Department of Commerce report released February 19, 1951, the total sales of paint, varnish, lacquer and filler for December, 1950 (as reported by 680 establishments or 90% of total value of output of the industry) was almost 82½ million dollars worth. During the previous December, 1949, the total sales amounted to almost 57½ million dollars worth.

Classifying these sales, the trade sales of paint, varnish and lacquer amounted to more than 52% of the total. Of the industrial sales, 72% was for paint and varnish and 28% was for lacquer.

Demonstration Shop For Testing Products

Every manufacturing concern that operates a metal cleaning and product finishing department or shop has been repeatedly solicited by salesmen who asked that their respective companies' products be tried out in production to demonstrate their claimed merits of superiority. Frequently it is troublesome and upsetting to do this sort of thing, especially when the plant is busy, and most foremen are reluctant to consider it unless what they are using is giving trouble or is costing too much or is in short supply.

Of course, from the salesman's angle, the prospective user ought to be eager to try something new that is backed by a reputable company and which offers superior performance and perhaps important economies too. If they refuse to try his wonderful product they are not cooperative or progressive. He can use stronger words than these.

One of our readers has written us a letter on this wherein he offers a solution that ought to make both sides happy—a commercial demonstration shop to which both companies can take samples of their products and make actual production runs under shop conditions. Let's read some of Mr. F. P. Denman's letter:

"During many years in the industrial finishing business I could appreciate the handicaps which the chemical industrial salesmen had to work under. They would come into my place of business and want me to disrupt a satisfactory production setup by handing me a sample, or in most cases wanting me to buy a test run of their material, with the point in view of hoping that I would be lucky with the experiment, never paying much attention to our method of operation. None seemed to ask questions about our method of pH control on our cleaning or, as a matter of fact, anything else. They could not take me to any organization and process any work for *me*, because the companies were not interested in *me*.

"Now, here is the meat of the above experience.

"I have built a commercial demonstration shop similar to the universal demand. My tanks (eight tanks 3x3x6-ft.) are all in line with a conveyor and thermostatically controlled. I have a small testing laboratory in the same room. Here I plan to have one specially trained operator to give intelli-

Protect them with M & W Clear Coatings that stand 800 HOURS OF SALT SPRAY!

● Zinc die castings and zinc plated steel are being used more and more as big manufacturers swing to these parts to replace unavailable materials. BUT the copper, nickel and chromium normally used for plating are in tight supply *too.*

Here's an effective way to meet this new problem. *Coat the die castings and zinc plated steel parts—instead of plating them!* Coat them with the M & W finishes that stand up under salt spray and weatherometer tests for the extraordinary period of 800 hours . . . that protect the zinc against discoloration!

Use DULAC Clear Universal Lacquer #462 if you want an air-drying lacquer—CODUR Clear Synthetic Y743 for baking. They both give the same exceptional performance. Write for free Technical Data Bulletin #110, or let our M & W technical consultants discuss your requirements with you.

PIONEERS IN PROTECTION

75th ANNIVERSARY M&W CO. 1876

MAAS & WALDSTEIN COMPANY

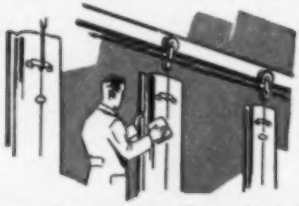
NEWARK 4, N. J.
CHICAGO 12, ILL.
LOS ANGELES 34, CAL.

PACIFIC COAST DIVISION: SMITH-DAVIS CO., 10751 VENICE BOULEVARD, LOS ANGELES 34, CAL.

MANUFACTURERS OF INDUSTRIAL FINISHES

DUST-ALL Tack Rag

for better, cleaner finished jobs



Remove the specks, lint, dust from surfaces to be painted; wipe them off with a Dust-All Tack Rag; be sure of fine, blemish-free, finished jobs.

Get the Dust-All Tack Rag in the familiar Red Checkered Bag; also available in 150-250-500 yard rolls.

HARDING Manufacturing Co.

10618 GRATIOT AVE.
DETROIT 13, MICH.

NITRO-STAN
Wood Finishes

Stains
Fillers
Sealers
Enamels
Undercoats
Topcoat Finishes

Color Cards on Request.
Inquiries Invited.

Standard Coating Corp.
455 Broad Avenue
RIDGEFIELD, N. J.

gent demonstrations on the products I hope to sell. I can give an uninterrupted demonstration on the prospect's own material, in privacy and with the perfect cooperation by our operator."

Mr. Denman, by the way, is in California, and plans to specialize in anti-corrosion treatments and finishes for various metal parts and products.

In this line, as well as in others relating to surface treatment and the use of protective and decorative coatings on metal, plastic, wood, fabrics, paper, etc., it would be a fine thing in all large industrial centers, to have a commercial demonstration or testing shop where test runs could be made of various products under actual shop conditions. Then, many new products and treatments could be tried out and decisions could be made without disrupting the production routine in various factories, and without the possibility of someone or something sabotaging the honest efforts of those interested in obtaining actual facts and accurate results of a fair test. It's something to think about.

Detrex Has Eng. Specialist For National Emergency

W. I. Tebo has been appointed Washington Engineering Consultant Technical Advisor for Detrex Corporation, Detroit 32, Mich., according to A. O. Thalacker, Vice President and General Manager.

To his new position, Mr. Tebo brings vast experience in basic engineering research. During his 19 years of company service he has had laboratory, engineering and field experience in every phase of industrial metal cleaning. He is thoroughly familiar with Detrex facilities and potential for development, engineering, and production of defense materials.

LANLY "BUILT-IN" *Heating Systems*
for Compact Streamlined Continuous Finishing Ovens

FIRST, Get a LANLY Proposal
Write for Catalog
THE LANLY CO.
OVENS FOR INDUSTRY
HEATED BY GAS, OIL, ELECTRICITY OR STEAM
760 PROSPECT AVE., CLEVELAND, OHIO

Durable Labeling . . . A Neglected Item

★ Anyone associated with the paint business for any length of time must be impressed with the poor labeling practices of some of the companies in the field—both raw material supply houses and paint companies. This holds true both for laboratory samples and for production size packages. The fault is not primarily that the labels contain insufficient information, although this too does happen, but merely that the labels are not durable and legible enough.

In the factory one sees bags, cartons, drums and cans with small lettering, sometimes too small for easy legibility under factory lighting and cleanliness conditions. Faint, faded looking stenciling is all too common. Small paper labels are sometimes torn or rubbed off in handling before the package ever reaches the consumer.

The shipper should allow for a certain amount of weathering and wear and tear on his labels in transit and when handled in his customer's plant. Many plants have a certain amount of unavoidable dust, dirt and soot of one type or another which tends to obscure dull lettering. Drums stored in an open yard often have their top and sides covered with snow and ice. These factors also make for illegibil-

---

★ *Guest Editorial . . . Many readers can write an excellent editorial—two or three paragraphs that present a timely suggestion or valuable idea which will stimulate thought on a live subject. The Editor welcomes guest editorials and pays for those used.*

"Wood Graining"

ADDS

Eye Appeal

American Graining Plates are photographic reproductions of fine woods.

AMERICAN RICHWOOD PRODUCTS CO.

Graining Plate Division

104 E. Mason St., Milwaukee 2, Wis.

Spe-de-way

WOOD BLEACH

This single operation, controllable, Patented Bleach

- Requires No Neutralization
- Does Not Raise the Grain
- Leaves No Deposit
- Wood Is Left Neutral
- Economical . . . Dependable

Gallon Unit makes two gallons of bleaching solution. Application by spray or synthetic rubber sponge. Wood is ready for finishing in less than two hours.

Delivered prices quoted on request.

Spe-de-way Products Co.

manufacturers

3639 N. Columbia Blvd., Portland, Ore.

ity. Duplicate labels are preferable. This practice is specially valuable when examining stacked containers.

You wouldn't think that any company would send out samples without a label, but some of the largest chemical companies have sent out completely unlabelled samples at times. One company uses only the purchase order number as a label. Even though one knows what was ordered, the lack of a label raises an element of doubt. A well-known chemical company sends out its samples beautifully packaged. They look as if they would withstand being run over by a truck. However, the labels on their bottles fall off after a short time. Another company has the information on its labels printed in a purple ink. A year later this ink has faded so completely the printing is illegible.

Although poor labeling is not a major tragedy, samples of unknown composition mean a loss of business for the supplier; and the container that turns up minus a label at inventory time means a loss of time and money for its owner. The neglected field of labeling could stand more attention in the future.—*E. V. Goldstein.*

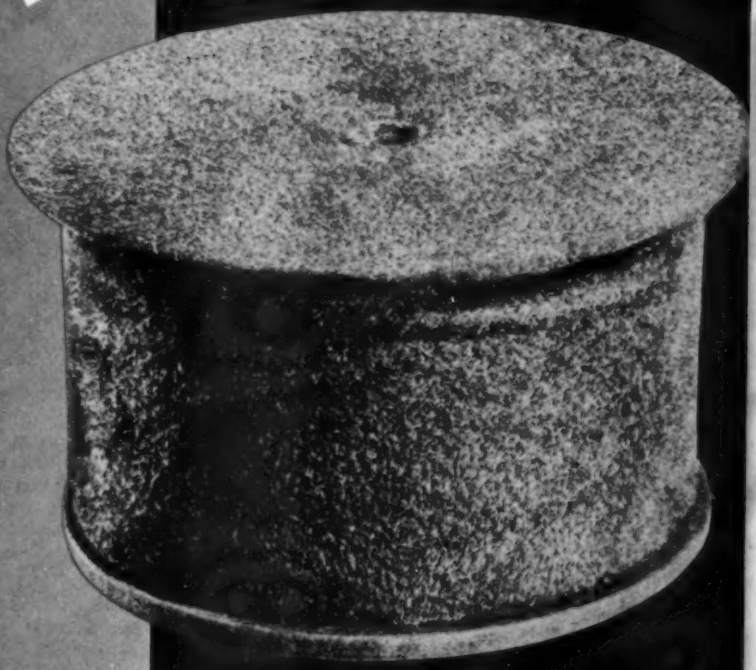
Where to Learn About Better Finishing

★ In recent years, methods, materials and equipment for finishing metal and wood products have taken such tremendous strides, that the average manufacturer has not kept pace with the technological advances that are available to assist him in producing better products. He can receive, today, free of charge, technical and engineering knowledge in regard to the finishing of his product—information that previously would have cost him thousands of dollars.

Most of the reputable manufacturers of finishing materials have in-

Display Turn-table
finished in the sleekness of
CLAREMONT *Flock!*

Here, sprayed-on, green flock finish eliminated painting, polishing and smoothing operations. Gale Dorothea Mechanisms of Jackson Heights, N.Y. was highly satisfied with Claremont Flock for eye appeal, quality appearance and utility values.



Complete details, color cards and test samples of Flock furnished upon request. Inquiries invited.

Write direct to

CLAREMONT WASTE MFG. CO.
The Country's Largest Manufacturer of Flock
CLAREMONT, NEW HAMPSHIRE

NOW! Tack Cloth in Handy Rolls *or* Cut Bulk

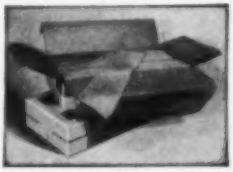
Cut off any size piece and use as needed.

Now you can get Tack Cloth packed the way it's easiest for you to use—either in 150 yard rolls of 36" wide cloth or in handy cartons—100 or more Tack Cloths to the carton.

No matter which way you buy it, you can be sure that every square inch will **stay** SOFT and TACKY until the very last bit is used up.

The Cut Bulk size is 18" x 36"—folded to 4½" x 18" for easy handling. **All of our Tack Cloth is Spontaneous Combustion-Proof, Lint-Free and Wax-Free.** It's clean and sanitary—there's no waste.

Write today for complete information, prices and samples.



Already cut and folded, ready to use.

Baughn Chemical Products Company

"The Tacky Wiper Specialists"

7027 N. RAVENSWOOD CHICAGO 26, ILL.

Also Individually Packed in Glassine Envelopes —144 to the Carton.

A WARRANTY OF SATISFACTION IN EVERY CARTON

stalled large laboratories which are staffed with experienced chemists. They also employ expert production men capable of laying out complete finishing systems and advising the manufacturer on the correct type of finish to use for his particular product. A large number of paint manufacturers are replacing their old type representatives with trained technical men, who can discuss with the manufacturer his particular problem, and then come up with a solution or bring in men who can solve the problem.

Take for example, the application of hot lacquers and enamels. Tremendous strides have been made in the last two or three years in this particular method of application. Savings to the producer of as much as 50% in the use of solvents, increases in the speed of conveyor lines by as much as 30%, improvement in the gloss, film thickness, durability and adhesion—these are just a few of the advantages to be gained by this method.

I would suggest to purchasing agents and production managers that it is not a matter of wastefulness to spend some time with representatives of paint producers whether or not they are supplying materials to your company. If these men are familiar with your processes, they may some day come up with an idea or help solve a problem for you that will save you money. In many plants today, the finishing room is a serious bottleneck and even today some manufacturers fail to realize that the finish on the product is one of its greatest selling points.

I am sure that if more manufacturers would work closer with their suppliers of finishing materials, and take advantage of the services offered, they would reap benefits in increased sales and fewer headaches.—*Bramwell Simpson.*

Random Comment on the Industrial Scene

(Continued from page 4)

observing the rules of good housekeeping, cleanliness, inspection and maintenance. There are all sorts of safety and signal devices available, as well as automatic systems. These things may not prevent a fire from starting, but they will keep a small fire from growing to proportions that endanger life, stop production, cause unemployment and add to the annual loss by fire.

* * *

Rubber Chain Belt. After years of experimenting a rubber and fabric belt has been developed with regularly spaced rubber teeth along the inner surface which engage in corresponding grooves in the pulleys.

These rubber chain belts meet the need for power drives that will not slip. It is said that speeds up to 16,000-ft. per minute are possible. They are practically noiseless and require no lubrication.

* * *

Metal Nameplates. Introduction of revolutionary new self-adhesive metal nameplate requiring no pre-drilling of holes, screws, rivets or other fastening devices is announced by the C & H Supply Co., Metal-Cal Division, of Seattle, Washington. Consisting of a .003-in. thickness of aluminum foil anodized and dyed to government specifications, Metal-Cals were developed to meet the specific needs of the Boeing Airplane Co. during the war.

* * *

Output Upped 20%. Joseph H. Quick, president of The Work-Factor

(Continued on page 122)

TOUGH FINISHES!

Hard, resistant finishes such as zinc chromate, baked enamel, primers and various synthetics are easy to remove with our new WATER RINSABLE REMOVER. Just apply it with a paint brush or spray it on . . . The old finish soon becomes a soft mass, readily flushed off with a hose! Steel wool dipped in water or a putty knife will also do the job.

Imperial Water Rinsable Remover is perfect for removing finishes from metal. Small metal items immersed in it quickly shed their finish when rinsed in water. Heavy bodied, it does not run on vertical surfaces. Harmless to brushes. Non-inflammable, Water Rinsable Remover is safe for use in any industrial plant.

IMPERIAL
WATER RINSABLE
REMOVER

WILSON-IMPERIAL CO.
125 Chestnut Street
Newark 5, N. J.

Mail coupon for complete information.

WILSON-IMPERIAL CO.
125 Chestnut Street, Newark 5, N. J.

We are interested in stripping finishes

from_____

Type of finish_____

Name_____

Company_____

Street_____

City_____ State_____

Depend on Duralac for your

D. O. REQUIREMENTS

You will find that we have the know how, experience and facilities to supply the following to

GOVERNMENT SPECIFICATIONS

- Lustreless, semi-gloss, gloss lacquers and synthetics
- Wrinkles
- Primers
- Thinners
- Specialty Products

SEA-LAC

Duralac Chemical Corp.

84 LISTER AVE., NEWARK 5, N. J.

Co., management consultants, New York, declares that "based on experience during the past 16 years in industry, it has been demonstrated that when the work-factor system is used to replace stopwatch time study, productivity increases about 20% on average. This increase does not increase worker hardship. It results from the establishment of better motion patterns, better tools and better work-places. Applied to defense production, this system could increase manufacturing capacity by one fifth without the addition of a single new plant."

* * *

Paint Indicates Temperature. A new paint that changes color as temperature is increased, comes in 15 basic colors for original application. The paint was developed for studies of cooling processes for air-cooled, internal combustion engines. Through the use of this paint, proper locations may be determined for thermocouples to measure internal heat while the engine is operating.

This paint should provide revealing knowledge in the baking of organic finishes on metal products, and especially those products baked in an infra-red electric oven.

* * *

Industrial Wash Cloth. A tough, long-wearing non-woven fabric, impregnated with Hycar latex, that looks, feels and absorbs water like chamois, but wears three times longer than the natural product, will soon be introducted in selected test areas, according to Loren Products Corp. of New York, N.Y.

Samples of X-Lint successfully withstood hundreds of car washings and the harmful effects of gasoline, greases and powerful detergents. It is unaffected by ordinary household chemicals and solvents that are generally

METALLIC BRONZE LACQUERS

PLATED-EFFECT FINISHES

The Triumph of 20 years Research. Will not cake, jell or settle out; complete dispersion of pigments through patented process gives brilliant lustre and high reflectivity. No dead-spots or shadows. 15 standard plating shades.

Send color specimen and full details for sample and quotation.

Not Available in Gold or Silver.

NATIONAL LACQUER & PAINT CO., INC.
7415 S. GREEN ST. • CHICAGO 21, ILL.

harmful to chamois, leaves no lint, and possesses none of the noticeable disadvantages of natural chamois, such as thin spots or ragged ends. Impervious to salt water, it's the first practical "chamois" for marine use.

* * *

Spray for Minor Burns. Since time is of the greatest importance in treating burns, a Tannic Spray in the new "Dispenseal" bottle—which provides a stable, jet-propelled solution of tannic acid at the touch of a thumb—is rapidly becoming a necessity in industrial first aid. Due to the patented bottle, the Tannic Spray is hermetically sealed against contamination, and can't leak. The alcoholic solution of tannic acid and chlorobutanol is always kept pure and stable.

"Sicon," Heat-Resistant Coating

A new heat resistant finish, "Sicon," formulated from a silicone base, is a product of Midland Industrial Finishes Co., E. Water St., Waukegan, Ill.

"Sicon," formerly marketed under the trade name of "Mico," became widely known as the original silicone base finish. The product has been further improved and refined, and is claimed to exhibit unusual stability at temperatures of as high as 1000° F. This has led to its adoption as the only heat resistant finish to solve specific finishing problems, according to a brochure just issued by the company. *(Continued on page 124)*

IDEAL TACK RAGS

FOR A PEFECT FINISH

Immediate Delivery

IDEAL CHEMICAL COMPANY

1689 Lee Road Cleveland 18, Ohio

Announcement To Our Friends

After March 1st, we will have for immediate shipment, a complete stock of Porter-Cable Speedmatic and Guild tools and accessories.

Wilkinson Equipment & Supply Co.
6958 S. Wentworth, Chicago 21, Illinois

Serving **THE SOUTHEAST**

- LACQUERS
- SEALERS
- FILLERS
- TONERS
- GLAZES
- PIGMENTED WIPING STAINS
- NGR STAINS

Complete Technical Service At Your Disposal

SNYDER BROTHERS COMPANY

Manufacturers of Quality INDUSTRIAL LACQUERS

P. O. BOX 548 — TOCCOA, GEORGIA

you save when you use

LIQUID ENVELOPE
PEELABLE

SPRAY-BOOTH COATING

Spray on in minutes—peel off with all accumulated overspray in minutes. No more time-consuming scrape-downs; no more paper, grease, etc. Firesafe. Economical. Used in hundreds of plants.

Order a 5 gallon Test-Sample at the drum lot price.

DISTRIBUTED BY

General Spray Equipment Co., Boston, Mass. • Bay State Equipment Co., Springfield, Mass. • Lea Manufacturing Co., Waterbury, Conn. • Edgcomb Steel of New England, Milford, Conn. • Kellerman Paint Co., New York, N. Y. Grapek Paint Co., Newark, N. J. • Pennsylvania Lacquer Center, Philadelphia, Pa., • R. W. Renton Co., Cleveland, Ohio, Indianapolis, Ind. • Dean & Barry Co., Columbus, Ohio • Vic Miner Co., Toledo, Ohio • Abrasive & Supply Co., Detroit, Mich. • Melson Industrial Supply Corp., Grand Rapids, Mich. • O'Donohue Sales Co., Milwaukee, Wis. • Paints & Lacquers Inc., Chicago, Ill. • Tanner & Co., Indianapolis, Ind. • Metal Goods Corp., St. Louis, Mo., North Kansas City, Mo., Dallas, Texas, New Orleans, La. • Hubbard & Stau, Los Angeles, Calif • M. E. Smith Co., Los Angeles, Calif. • C & H Supply Co., Seattle, Wash. • Hugh Russel & Sons Ltd., Montreal & Toronto, Canada.

BETTER FINISHES AND COATINGS, INC.

268 Doremus Ave., Newark 5, N. J. • 122 East 7th St., Los Angeles 14, Calif.

"Sicon" gains its notable heat resistant properties from the amazing silicones, heat stable organo-silicon oxide polymers, about which so much has been learned in recent years. It is well known that silicones possess extreme resistance to heat, moisture, oxidation, and ultra-violet rays. This new paint can be applied by brush, spray or dip, and requires only a chemically clean surface obtained in any ordinary manner. A new free bulletin gives additional information about this remarkable coating.

Wilkinson E. & S. Corp. Can Now Supply Porter-Cable Tools

Wilkinson Equipment & Supply Corp., 6958 S. Wentworth Ave., Chicago 21, Ill., announces that it is now in position to make immediate shipments of Porter-Cable Speedmatic and Guild tools and accessories.

Several new developments for the furniture and cabinet field, for better finishes and patching, will also be announced soon by Wilkinson.

C. T. (Bud) Olsen in Indiana for V. J. Dolan & Co.

M. J. Fernan, Sales Manager of V. J. Dolan & Co., Inc, of Chicago, announces the appointment of C T. (Bud) Olsen as sales representative in the Indiana territory, with headquarters at New Albany, Ind. "Bud" has a wealth of technical and practical experience in the finishing industry and is well equipped for his new assignment.

Calco Issues New Pigment Catalog

A new catalog "Colors for Paint, Lacquer and Enamel" has been published and widely distributed to the paint, lacquer and enamel industry by the Pigment Department, American Cyanamid Company, Calco Chemical Division, Bound Brook, N.J.

The new catalog lists selected Calco colored and white pigments and dyes considered to be of greatest use in the formulation and manufacture of paints, lacquers, enamels, and related products.

Bede Paint Heater Wins Design Award

The Bede Paint Heater has been awarded the "Modern Designs" citation by Design News Magazine for "general excellence in mechanical design." The award was presented to James A. Bede, President of Bede Products, Inc., who developed the efficiently designed Bede Paint Heater.

James A. Bede, President of Bede Products, Inc., with Bede Circulating Paint Heater which won the Modern Designs Award.

In presenting the award, John E. MacArthur, District Manager of the design publication, called attention to the main purpose of the award, to pay "tribute to the designers of a machine that is noteworthy for efficient performance of its function."

The present model Bede Paint Heater was designed and produced in production quantities in 1949. It is the first paint heater to use aluminum as a heat transfer medium—making the paint heater completely explosion-proof — and is the first paint heater to be approved by Underwriters Laboratories.

The Design News award is bestowed annually on the basis of excellence of "function, appearance and economy."

PAINT STRIPING TOOL

Works Like a Fountain Pen

FEEDS PAINT TO MAKE CURVED OR STRAIGHT LINES

Simply fill Tubular Glass Paint Fountain with paint or lacquer and Knurled Wheel Tip feeds paint evenly! Tips Interchangeable. Master Paint Striping Tool complete with 1/16" tip, $1.00. Other complete tools with 1/64", 1/32", 3/64", 5/64", 3/32", 1/8" widths, $1.50. Extra tips $.75; complete kit with tool and 7 tips, $5.00. Used by industry on production striping. See your dealer or order direct today.

WENDELL MFG. CO.
Dept. 93
4234 N. Lincoln Ave.
Chicago 18, Ill.

USE FOR STRIPING

- FURNITURE
- TOYS
- BICYCLES
- BOATS
- SCOREBOARDS
- LAMPSHADES
- AUTOMOBILES
- CERAMICS and for adding new beauty to all painted objects.

RESTORE PAINT IN 2 MINUTES

PER GALLON WITH

MIRACLE BLUE-BOY

5 GALLON

PAINT REJUVENATOR

Paints, lacquers and enamel products can be restored to their original consistency without opening the can. Units available to handle from ¼ pint to 50 gallon drums. Immediate delivery.

Originators of paint rejuvenating equipment---sixteen years---thousands of satisfied users.

Write for folder & prices

MIRACLE PAINT REJUVENATOR CO.
128 E. 10th Street **St. Paul 1, Minn.**

REPLATE

(Not a Lacquer)

QUICK BAKE HI-SOLIDS

CLEAR

Final protective coat for plating replacements.

- Sprayed or Dipped
- Water White
- Won't Discolor
- Excellent Adhesion to Polished Metal
- Resists Abrasion

Adopted by Leading Automobile Manufacturers.

UNIFILM PAINT CO.

SOMERVILLE, NEW JERSEY

PHONE B-3883

ty-d Hand Protector

A Protective Hand Cream Especially Formulated

for . . . Persons handling Polishes, Paints, Varnishes, Lacquers, Stains, Inks and Adhesives.

- Does not irritate, dry or crack the skin.
- Readily removed with soap and water.

FREE!! FULL SIZE SAMPLE.

Write

COMPO CHEMICAL CO.

Incorporated

MANSFIELD, MASS.

DISTRIBUTORS WANTED: Good territories open to men calling on finishing field.

New Brush Catalog by Osborn

A new 3-color brush catalog, designed to simplify selection of the best brush for the individual job, has just been issued by The Osborn Mfg. Co., 5401 Hamilton Ave., Cleveland 14, Ohio.

The new catalog contains 76 pages and cover, is 8½ by 11-in. and presents numerous illustrations of industrial brushing operations in addition to photographs and description of Osborn's complete line of power, paint, varnish and maintenance brushes.

The informative new publication has been designated as Catalog 210 and contains many innovations, including a 3-page digest of the origin of Osborn brush materials from many parts of the world, a 3-page section devoted to factors involved in selecting the right brush for specific jobs, and including operating equipment requirements, brush characteristics, operating conditions, surface speeds and other helpful information regarding brush usage.

Classified Advertising

Rate: $1.00 per line per insertion—minimum $5.00

POSITION WANTED.

Expert Foreman Finisher desires connection with reliable concern. 25 years' experience as foreman. Have knowledge both technical and practical in all finishing phases. Capable of meeting schedules with high quality finish. I harmoniously manage any number of people. Can furnish best of reference. All replies will be treated in confidence. Address IF-790, care Industrial Finishing.

POSITION WANTED.

Finishing Production Manager with twenty years' experience in all phases of organic finishing of metals. Thorough technical knowledge of production layouts, finishing methods, assembly and chemistry of materials employed. Would also consider position with progressive Paint Manufacturing concern as Technical Service Engineer. Presently employed but desire advantageous change. Address IF-791, care Industrial Finishing.

SALESMAN WANTED.

Opportunity for industrial salesman residing in Chicago. Must be experienced in enamel and lacquer sales and able to offer potential business. This offer by a large well-established mid-west manufacturer. Address IF-796, care Industrial Finishing.

FINISHING FOREMAN WANTED.

Southeastern Indiana manufacturer of top line period bedroom furniture requires expert finisher on wood. In reply, give complete details, background and references. Address IF-792, care Industrial Finishing.

FINISHING FOREMAN.

Manufacturer in Pennsylvania requires expert finisher on wooden television cabinets. Capable of handling large finishing department and at least 100 men. Must have knowledge both technical and practical in all finishing phases. Good salary. In reply, give full and complete details and references. Address IF-793, care Industrial Finishing.

FINISHES FORMULTOR WANTED.

Industrial Finishes Formulator, lacquer and/or synthetic. Minimum 3 years experience preferred. EGYPTIAN LACQUER MFG. CO., P. O. Box 811, Lafayette, Indiana. Attention: J. H. Whiteside, chief chemist.

LACQUER CHEMIST WANTED.

College graduate with three to five years' experience for paint, varnish and lacquer formulation for new product development group in recently formed laboratory. Southern location. Please send full details of education, experience and salary requirements. Address IF-794, care Industrial Finishing.

WANTED TO BUY.

Will buy your dirty Thinners and Solvents. Send samples or letter giving approximate contents and solids. Address THE JOHANN CO., Room 416, 1180 E. 63rd St., Chicago, Ill.

FORD CUPS
THE VOL-U-METER COMPANY
Buffalo 16, New York

MAN WANTED

With several years' experience in formulation of lacquer furniture finishes. Excellent opportunity for advancement with small expanding organization. Snyder Brothers Company, P. O. Box 548, Toccoa, Georgia.

MATERIALS WANTED.

Titanium Dioxide (any grade) needed to carry on our business. Will pay any reasonable premium or exchange for other critical chemicals. We would also like to trade some Toluol for Secondary Butyl Acetate at present market price value. Write IF-795, care Industrial Finishing.

PLANT FOR SALE OR RENT.

Largest industrial job finishing plant in Philadelphia area. Available with modern conveyorized equipment. Ideal for job finishing or metal fabricating shop. 15,000-sq. ft., one story, concrete floor, yard space additional. Address IF-796, care Industrial Finishing.

TOMORROW'S Products Tested TODAY

A service to aid industry in producing longer-lasting and better-looking products. Quick predetermination of durability and permanency by actual exposure test in South Florida. Write us today for full information.

SOUTH FLORIDA TEST SERVICE
EST. 1931
4201 N. W. 7th St. Miami 34, Fla.

WE BUY

OVERSPRAY PAINT SLUDGE

Collected from Your Spray Booths

For Particulars
Call or Write

PACIFIC RESIN CO.

2330 E. 37th Street
LOS ANGELES 58, CALIF.
JEfferson 8855

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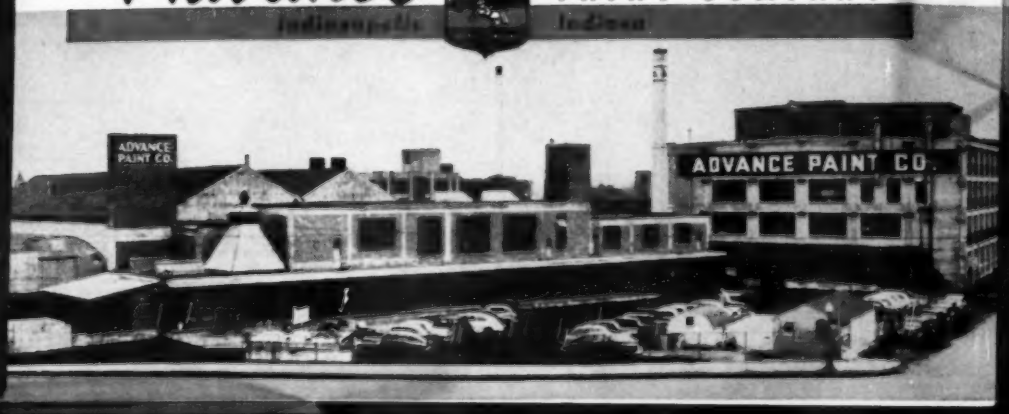

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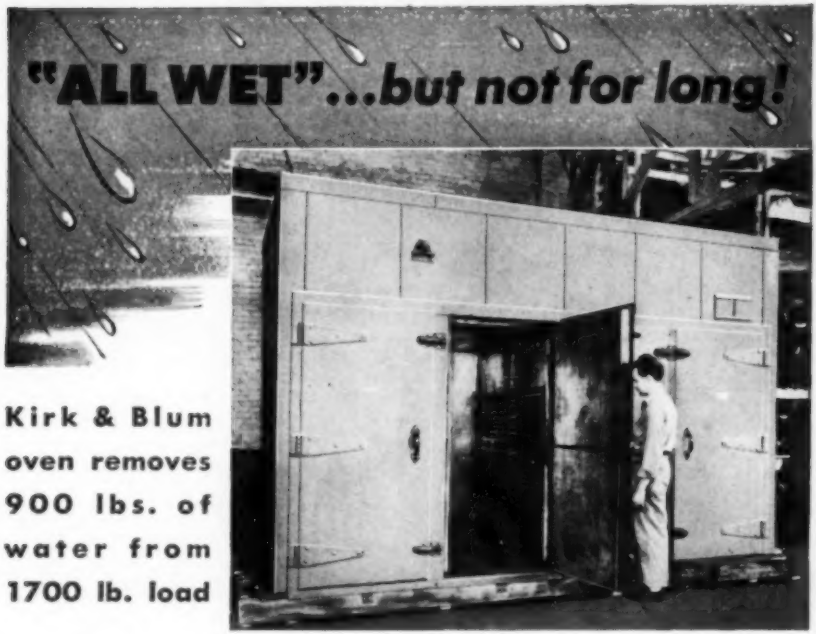

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